

Service Manual

AUTOMOTIVE CONSUMER ELECTRONICS

CQ-MR555LEN

High-Power MD Player/RDS Receiver with Changer Control



Specifications*

General

Power supply	: 12V DC (11V-16V) Test Voltage 14.4V, Negative ground
Tone Controls	: Bass; ± 12 dB at 100Hz : Treble; ± 12 dB at 10kHz
Current consumption	: Less than 2.5 A (MD mode, 0.5W 4-Speaker)
Maximum Power Output	: 40W \times 4 (at 4 Ω)
Power Output	: 20W \times 4 (DIN45 324, at 4 Ω)
Speaker Impedance	: 4 - 8 Ω
Pre-Amp Output Voltage	: 2V
Pre-Amp Output Impedance	: 600 Ω

FM Stereo Radio

Frequency range	: 87.5 - 108MHz
Useable sensitivity	: 6 dB/ μ V (S/N 30 dB)
Stereo separation	: 35 dB (at 1kHz)

MW Radio

Frequency range	: 531 - 1,602kHz
Useable sensitivity	: 28 dB/ μ V (S/N 20 dB)

LW Radio

Frequency range	: 153 - 279kHz
Useable sensitivity	: 32 dB/ μ V (S/N 20 dB)

MD Player

Channel	: 2 channels
DA Conversion	: 16-bit linear
Frequency response	: 5 to 20,000Hz
Signal to Noise ratio	: 90 dB (1kHz)
Wow and flutter	: Below measurable limits

Dimensions** (W \times H \times D)	: 178 (W) \times 50 (H) \times 150 (D) mm
Weight**	: 1.4 kg

* Specifications and the design are subject to possible modification without notice due to improvements.

** Dimensions and weight shown are approximate.

*** Above specifications comply with EIA standards.

Panasonic

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.

Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the products dealt with in this service information by anyone else could result in serious injury or death.

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FEATURES

- 1DIN Size Body with MD Player, AM/FM Tuner, Power AMP (40W×4) and CD Changer Control Function
- PRE Output Connector Function
- Detachable Face Plate Security
- SHDB (Super High Definition Bass) Function

REPLACING THE FUSE

Be sure to use a fuse of the specified rating (15A) when replacing a blown fuse. Fuses with higher capacity ratings, use of any substitute, or connection without a fuse may result in a fire hazard or damage to the unit.

MAINTENANCE

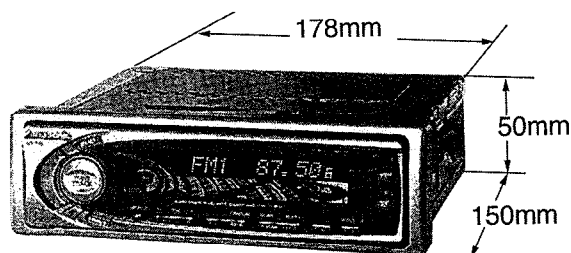
Your product is designed and manufactured to ensure a minimum of maintenance. Use a soft cloth for routine exterior cleaning. Never use benzine, thinner, or other solvent.

RADIO AND MD DECK ALIGNMENT**RADIO BLOCK**

Do not align the AM and FM package block is necessary, it will be supplied already aligned at the factory.

MD DECK BLOCK

This models has no servo alignment points because microcomputer controls the servo circuit.

DIMENSIONS

Operating Instructions

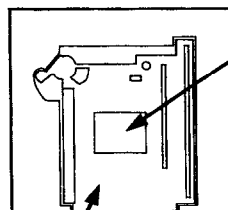
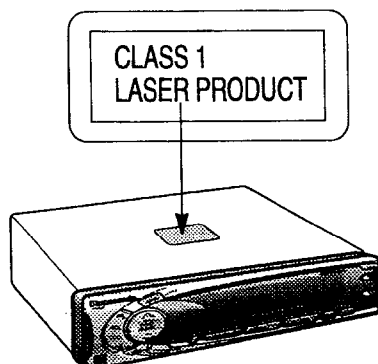
- Label Indications and Their Locations
- Warnetiketten und deren Anbringungsort
- Indications portées les étiquettes et emplacement

- APPAREIL À LASER DE CLASSE 1
- KLASS 1 LASER APPARAT
- LUOKAN 1 LASERPLAITE

- Aanduiding van de labels en hun plaats
- Varningsskyltarna, och deras placering
- Indicazioni delle etichette e le loro posizioni
- Indicaciones de las etiquetas y su ubicación

VORSICHT!

UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET IST, NICHT DEM LASERSTRAHL AUSSETZEN.



DANGER! Invisible laser radiation when open. Avoid direct exposure to beam.
 ADVARSEL! Usynligt laserlys udsendes ved åbning. Undgå direkte bestråling.
 VARO! Avaltuessa ja suojakäytös ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä kasto säteeseen.
 VARNING! Osynlig laserstrålning när denna del är öppnad och spårren är urkopplad. Beträkta ej strålen.
 ADVARSEL! Usynlig laserstrålning når deksel åpnes og sikkerhedsåls bryles. Unngå eksponering for strålen.

- Caution Mark
- Warnzeichen
- Marque d'avertissement
- Waarschuwingsteken
- Varningsmärke
- Marca di precauzione
- Marka de advertencia

- Deck Ass'y (Upper Side)
- Geräteansicht (Oberseite)
- Assemblage de la table lecture (Côté supérieur)
- Dekkbevestig (Bovenkant)
- Däcksenhet (Topp)
- Gruppo della piastra (Lato superiore)
- Conjunto de la platina (Lado superior)

3

Precautions (ISO Connector)

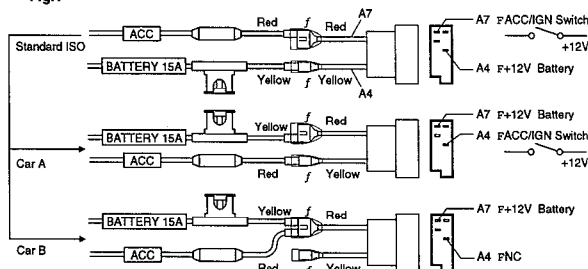
- Wiring for the power connector conforms to the arrangement of standard ISO connectors.
- In case of some car types, the arrangement of connector may differ from the standard ISO as shown in Table 1, even though ISO connectors are adapted.

Table 1

Fig. 1 Pin No.	A4	A7
Car for standard ISO	Battery (permanent 12 V supply)	"IGN" or "ACC" (switched 12 V supply)
In case of Car type A	"IGN" or "ACC" (switched 12 V supply)	Battery (permanent 12 V supply)
In case of Car type B	No Connection	Battery (permanent 12 V supply)

- Make sure the ISO connector arrangement in your car side is as same as the standard ISO. (Table 1, Fig. 1)
- In case of arrangement for Car type A or B, change connections of the red/yellow leads at the re-connectable joint (f) as shown in Fig. 1.

Fig.1



- After fix the connections, the part (f) should be insulated with electrical tape to keep away from unit damage.

Panasonic welcomes you to their constantly growing family of electronic products owners.

We endeavor to give you the advantages of precise electronic and mechanical engineering, manufactured with carefully selected components, and assembled by people who are proud of the reputation their work has built for our company. We know this product will bring you many hours of enjoyment, and after you discover the quality, value and reliability we have built into it, you too will be proud to be a member of our family.

Precautions

Volume Level

For your driving safety, keep the volume level low enough to be aware of road and traffic conditions.

Car Washing

To avoid electrical shorts which may cause fire, or other damage, do not expose this equipment (including the speakers and MDs) to water or excessive moisture.

Car Ventilation

If your car is parked for several hours in direct sunlight, the temperature inside the car may become very high. It is advisable to drive the car and give the interior a chance to cool down before switching the unit on.

Power Supply

This equipment is designed to be used in a car having 12-Volt negative ground battery system.

Disc Mechanism

Do not insert coins or any small objects. Keep screwdrivers and other metallic objects away from the disc mechanism and disc.

Service

This unit is made of precision parts. Do not attempt to disassemble or adjust any parts. For repair, please consult your nearest authorized Panasonic Service Center.

Note

The preset memory is cleared to return to the original factory setting when the power connector or battery is disconnected.

Laser Products

Caution:

This product utilizes a laser.

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Laser products:

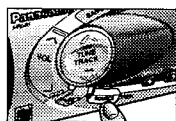
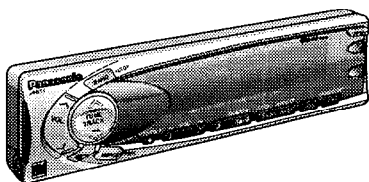
Wave Length 790 nm

Laser Power No hazardous radiation is emitted with safety protection.

Do not take apart this unit or attempt to make any changes yourself.

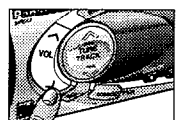
This unit is a very intricate device that uses a laser pickup to retrieve information from the surface of Mini discs. The laser is carefully shielded so that its rays remain inside the cabinet. Therefore, never try to disassemble the player or alter any of its parts since you may be exposed to laser rays and dangerous voltages.

Power and Sound Controls



Power

Turn the key in the ignition until the accessory indicator lights. Press SOURCE(PWR) to switch on the power. Press and hold SOURCE(PWR) again to switch off the power. When switching off the power, the panel removal alarm sounds. (See page 33 about the panel removal alarm.)
Note: When power is switched on for the first time, demonstration is displayed. To cancel this display, press * (DISP/CT).

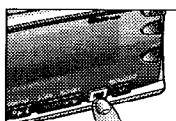


Volume

Press VOL \wedge or VOL \vee to increase or decrease the volume.

VOLUME 20 — Volume Level
 0 to 40

Press VOL \wedge or VOL \vee for more than 0.5 second to sequentially change numeric levels on the display.



S-HDB (Super High Definition Bass)

Especially for rock music, the bass sound will be more powerful.
 • Press HDB to be able to listen to high-definition bass.

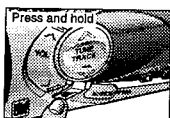
• Press HDB again to cancel.

Note: This unit is equipped with anti-volume-blast circuit which serves as an automatic volume level adjuster so that you will not be deafened with sudden loud sound. This system operates as follows. When SOURCE(PWR) is first pressed to switch on, the volume level is low. After that, the volume level gradually returns to the level as the same as the one before turning off. Anti-volume-blast circuit is not effective when the volume level is lower than position 20 at the display.

12

Power and Sound Controls continued

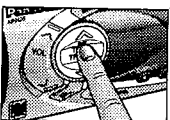
Display Controls



Changing Display Control Mode

Press and hold SEL for more than 2 seconds to change to the display control mode. Press SEL to change the display control mode as follows.

Regular Mode \rightarrow Level Meter [Pattern Number] \rightarrow Dimmer [DIMMER level] \rightarrow Security Indicator [LED ON/OFF]
 Press SEL



Level Meter Display Switching

Press SEL in the display control mode to change to the level meter control mode.

Press TUNE \vee to change the level meter as follows.

PATTERN 1 \rightarrow PATTERN 2 \rightarrow PATTERN 3
 PATTERN 5 \leftarrow PATTERN 4 \leftarrow PATTERN OFF
 (TUNE \vee : opposite direction)



Dimmer Switching

Press SEL in the display control mode to change to the dimmer control mode.

Press TUNE \vee to change the Dimmer as follows.

Dimmer 3 (Bright) \rightarrow Dimmer 2 (Medium) \rightarrow Dimmer 1 (Dark)
 (TUNE \wedge : opposite direction)

• See page 33 about the Security Indicator.

Note: When a setting mode (Level Meter/Dimmer/Security Indicator) is selected but no operation is made within 5 seconds, the display will return to the normal operation mode.

14

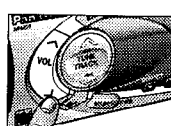
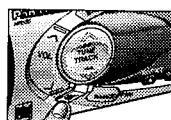
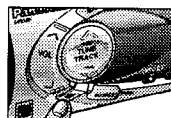


Mute (Only for remote control)

• Press MUTE to mute the sound completely.

MUTE

• Press MUTE again to cancel.



Changing Audio Modes

Press SEL to change the audio mode as follows.

Regular Mode \rightarrow VOLUME \rightarrow BASS \rightarrow TREBLE \rightarrow BALANCE \rightarrow FADER

Bass and Treble

Press SEL to select the BASS (TREBLE) mode. Press VOL \wedge or VOL \vee to increase or decrease the bass (treble) response.

BASS + 3dB — TREBLE + 3dB
 -12 to +12 — -12 to +12

Balance

Press SEL to select the BALANCE mode. Press VOL \wedge or VOL \vee to shift the sound volume to the right or left speakers.

BALANCE L 2 — BALANCE CNT — BALANCE R 2
 1 to 15 — Balance Center — 1 to 15

Fader

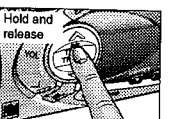
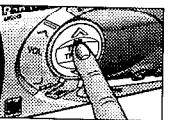
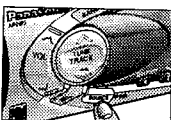
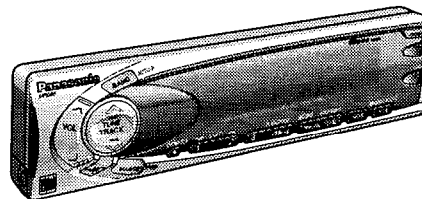
Press SEL to select the FADER mode. Press VOL \wedge or VOL \vee to shift the sound volume to the front or rear speakers.

FADE F 3 — FADE CNT — FADE R 3
 1 to 15 — Fader Center — 1 to 15

Note: When an audio mode (BAS/TRE/BAL/FAD) is selected but no operation is made within 5 seconds (2 seconds at VOL mode), the display will return to the normal operation mode.

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Radio Basics



To change to Tuner Mode

Press SOURCE to change the operation mode as follows.

Tuner \rightarrow MD \rightarrow CD Changer Control
 (When a disc is inserted) (When a CD Changer is connected)

FM1 87.50

Selecting a Band

Press BAND to select the bands as follows.
 "ST" indicator lights if the station is broadcasting in stereo.

FM1 \rightarrow FM2 \rightarrow FM3 \rightarrow AM(LW/MW)

Manual Tuning

Press TUNE \wedge or TUNE \vee to move to a higher or lower frequency.

FM1 87.50

Press and hold TUNE \wedge or TUNE \vee to move to a higher or lower frequency rapidly.

Seek Tuning

Press and hold TUNE \wedge or TUNE \vee for more than 0.5 second, then release. The radio automatically stops at the next station.

15

Radio Basics continued

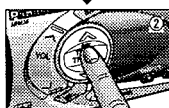
Preset Station Setting

FM1, FM2, FM3 and AM (LW/MW) can save maximum 6 stations each in their preset station memories.



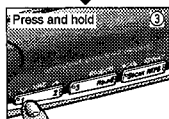
Manual Station Preset

- ① Press BAND to select a desired band.
- ② Use manual or seek tuning to find a station that you want to save into the memory.
- ③ Press and hold one of the preset buttons 1 to 6 for more than 2 seconds until the display blinks once.



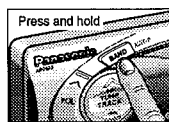
FM1 87.501 — Preset Channel Indicator

Note: You can change the memory setting by repeating the above procedure.



Tuning in a Preset Station

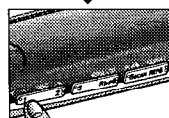
Press any of the buttons 1 to 6 to tune in the station preset.



Auto Station Preset

Select a band, press and hold BAND(AUTO•P) for more than 2 seconds.

- The 6 strongest available stations will be automatically saved in the memory on preset buttons 1 to 6.
- Once saved, the preset stations are sequentially scanned for 5 seconds each.



- Press the appropriate preset button for the station you want to listen to.

Caution: For safety reasons, do not attempt to program while driving.

16

RDS (Radio Data System) Reception

Many FM stations are broadcasting added data compatible with RDS. This radio set offers convenient functions using such data.

AF (Alternative Frequency)

When receiving condition becomes poor, an RDS station with the same program will be automatically selected.

EON (Enhanced Other Networks)

When EON data is received, the EON indicator lights and the TA and AF functions are expanded.

TA: Traffic information from not only the station now tuned in but also other stations of the same network can be received.

AF: The frequency list of the RDS stations preset by received EON data is updated.

TA (Traffic Announcement)

When an FM station that periodically provides the latest traffic information is received, the TP indicator lights. If TA ON is set, FM traffic information automatically interrupts your listening to a MD, CD changer until it ends, then you will listen again to whatever you have been listening to.

Best Station Research

If a preset RDS station is in poor condition of reception when you try to tune in to it, the best frequency is selected from the AF list of that station.

REG (Region)

The AF, Best Station Research, PI Seek functions will be as follows:

REG ON: The frequency changes only with the same regional program. This function is mainly used while driving in the same area, for example, in a city.

REG OFF: The frequency changes even with a different regional program if the station is in the same network. The broadcast may be different depending on the case. This function is mainly used when driving far from one region to another.

WHAT PROVIDES EON CAPABILITIES

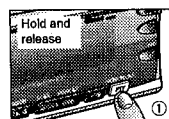
EON lets the radio set take advantage of RDS information much more than before. It constantly updates the AF list of all presets, including the station currently tuned in to. So, even if you change preset far from home, you will be able to receive the same station at an alternative frequency, or another station serving the same program if any. EON also keeps track of locally available TP stations for quick reception.

Note: When you're in AF ON mode, auto preset memory only works for RDS station. When in TA ON mode, it only works for TP stations. To make auto preset for ordinary stations, cancel AF mode and switch to TA off in advance.

18

MONO/LOCAL Selection

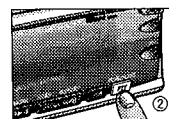
- Much interference is reduced during a weak FM stereo broadcasts when MONO is on. (Only for FM mode)
- Searching stops automatically at a strong wave station only when LOCAL is on.



① During FM broadcasts

Press and hold PTY(MONO/LOC) to change the mode as follows. Release your finger at the desired mode.

MONO OFF → LOCAL OFF → MONO ON → MONO OFF
LOCAL OFF → LOCAL ON → LOCAL ON

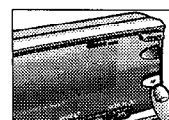
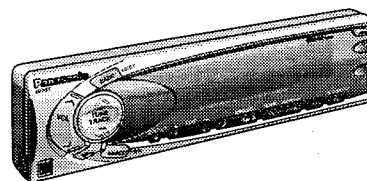


② During AM broadcasts

Press PTY(MONO/LOC) to switch on or off the Local mode as follows.

LOCAL OFF ↔ LOCAL ON

A. Basic Operation in RDS Reception (PS, AF, CT, PI)



RDS Reception

Press AF when receiving a station in the FM1, FM2 or FM3 band.

- The AF mode can be set to ON or OFF in each FM band.

BBC R4

- Select AF ON if you wish to use the AF network of an RDS station. Best station research is activated at the same time.
- Select AF OFF if the AF network of an RDS station is not necessary.



To Change AF Mode

Press AF to change AF ON and activate Best Station Research at the same time. (3 seconds maximum)

AF1 ONAF 1 Mode (Default)

AF2 ONAF 2 Mode

AF OFFAF OFF Mode

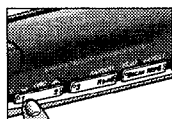
Notes:

1. Default mode is AF1.
2. AF1 has a low level of AF operating sensitivity in urban areas. Therefore, AF does not frequently operate even when sensitivity is temporarily lowered between skyscrapers, for examples.
3. AF2 is for suburban areas with a higher level of sensitivity than AF1.

19

RDS (Radio Data System) Reception continued

For Seek Tuning, RDS Station Preset, Tuning in a RDS preset station, and Auto RDS Station Preset, please refer to Radio Basics (page 15 to 17).



RDS seek tuning (PI seek)

The PI seek function may be used if an RDS station selected from the memory is poor in receiving condition. Press the preset button again for the station now tuning in to.



PI Seek: If Best Station Research fails in selecting the best station, the PI seek function operates to automatically tune in to the same program.

Region (REG) Switching

Press and hold AF(REG) for more than 2 seconds in AF mode to alternately select REG ON and REG OFF.

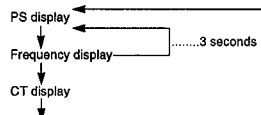


Note:

If you wish to stay with the same program, keep REG ON. If you keep REG OFF, there is a higher possibility of returning to an AF station in better receiving condition. The relationship of the PI seek function with REG ON and REG OFF is as described above.

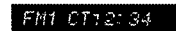
Changing Display

Press • (DISP/CT) to change the display. (Frequency display continues for only 3 seconds, returning to PS display after that.)



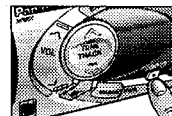
Clock Time (CT) System

The CT (24-hour) system may not properly operate in areas where RDS CT service is not available. Once CT service is received, the CT system keeps operating. "NO CT" is displayed in areas where no CT service is available.

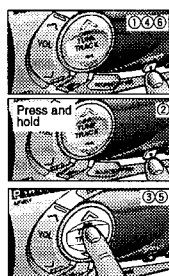


Clock Display

Press • (DISP/CT) to indicate the clock display.



20



Initial Time Setting

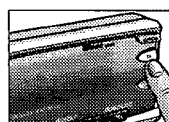
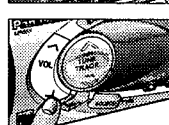
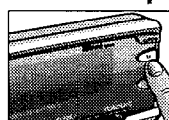
Press BAND to change to AM mode.

- Press • (DISP/CT), "NO CT" is displayed.
- Press and hold • (DISP/CT) again for more than 2 seconds, "hours" blinks indicating the time setting mode is activated.
- To set hours, press TUNE^ or TUNE^.
- Hold TUNE^ or TUNE^ change numbers rapidly.
- Press • (DISP/CT) again for minutes setting.
- To set minutes, press TUNE^ or TUNE^.
- After setting set the time, press • (DISP/CT).

Note:

If CT display is kept on, it remains on even if PWR and ACC are turned off and back on again.

B. TP Reception



Select Traffic Information (TA on) mode

Press TA to switch on and keep it there when you wish to listen to traffic information. Press TA again to switch off.



Volume Setting (Only for MD/CD-C TA on mode)

Adjust the volume as desired by pressing VOL^ or VOL^ while receiving traffic announcement. (TA)

After volume for traffic announcement (TA) is set, the difference between normal volume and TA volume is automatically stored in the memory (up to 5 levels) so that next traffic information will be received at the preceding TA volume which may be higher or lower than normal volume.

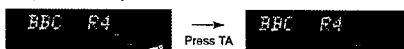
Normal volume can be changed up to 5 levels upward or downward. If an adjusted level of volume is over 40 or less than 0, any further change will not be made.

When receiving a station other than TP station (including EON stations)

A traffic information station is automatically searched for and the radio automatically stops tuning at the next available TP station.

EON Capabilities:

EON lets the radio take advantage of much more RDS information than before. It constantly updates the AF lists for all switch presets far from home, you will receive an alternative frequency for the same station, or another station carrying the same program, when such exists. EON also keeps track of locally available TP station.



21

RDS (Radio Data System) Reception continued



TP Seek Tuning

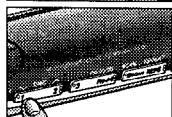
Press TUNE^ or TUNE^ for more than 0.5 second, then release. The radio automatically stops at the next available TP station.



Auto TP Station Preset

Press and hold BAND(AUTO-P) for more than 2 seconds. The six strongest available TP stations are automatically saved in the memory on the preset button 1 to 6.

Once saved, the preset stations are sequentially scanned for 5 seconds each.



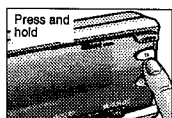
Tuning in a TP station preset

Press any of the preset buttons 1 to 6 that you want to listen to. And then Best Station Research function is activated to automatically select the strongest available frequency for the TP station (through the built-in frequency) lists, if reception is weak.



Muting TA on

Press and hold TA for more than 2 seconds to light "TA on". Then Traffic Announcement (TA) function is activated to operate, allowing you to listen to only Traffic Program whenever it is available.



Muting TA on canceling (Muting TA on → TA on)

Press TA again.
Press VOL^ to increase the volume level.

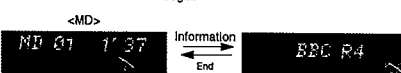
TP Auto Search

If receiving conditions are poor when TA is on during muting and if there is no other alternative frequency in the same network, a traffic announcement station in good receiving condition is automatically searched for.



MD/CD-C TA on

When press TA during MD, CD changer mode.
TA on mode is selected while listening to the source in that mode, wait for Traffic Announcement to begin.



Switching to TA off Mode

Select either one of the following steps.

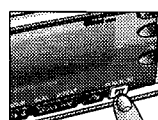
- Press TA when TA is on.
- Press and hold TA for more than 2 seconds when Muting TA is on.
- Press TA when MD/CD-C TA is on.



22

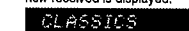
C. PTY Reception

(There are some areas where PTY service may not be available.)



Switching to PTY mode

Press PTY to select PTY display mode, and the PTY of the broadcast now received is displayed.

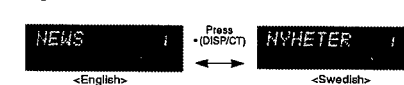


"NO PTY" is displayed if there is no corresponding program type.



Changing PTY Display Language

Press • (DISP/CT) in PTY mode to alternate the language between English and Swedish.



Program Type Selection

Press TUNE^ or TUNE^ to select the program type as follows.

SPEECH	MUSIC	NEWS	AFFAIRS	INFO	SPORT	EDUCATE	DRAMA
ROCK	M	POP	M	VARIED	SCIENCE	CULTURES	
M.O.R.M	LIGHT	M	CLASSICS	OTHER	M	WEATHER	FINANCE
LEISURE	TRAVEL	PHONE	IN	RELIGION	SOCIAL	A	CHILDREN
JAZZ	COUNTRY	NATIONAL	OLDIES	FOLK	M	DOCUMENT	

When a desired selection has been made, press BAND. Then automatic seek will start to tune into the station broadcasting the selected program type.

Note:

Seek tuning does not operate as long as "NO PTY" is displayed.

23

RDS (Radio Data System) Reception continued

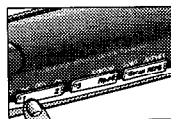
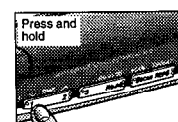


TABLE of PTY CODE and Program Type
Press any of the preset button 1 to 6 that you want to desire the program type. Those buttons are already stored program types as follows. (Default setting)

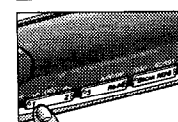
<PRESET PTY>

Preset NO.	1	2	3	4	5	6
Program Type	NEWS	SPEECH	SPORT	POP. MUSIC	CLASSICS	MUSIC
Display	NEWS	AFFAIRS INFO EDUCATE DRAMA CULTURES SCIENCE VARIED WEATHER FINANCE CHILDREN SOCIAL A RELIGION PHONE IN TRAVEL LEISURE DOCUMENT	SPORT	POP M	CLASSICS	ROCK M M.O.R.M LIGHT M OTHER M JAZZ COUNTRY NATIONAL OLDIES FOLK M



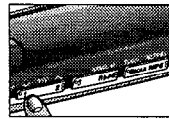
Program Type Preset

Press and hold one of the buttons 1 to 6 for more than 2 seconds to pre-set the desired program type selection in that button.



Tuning in a PTY Preset Station

Press any of the preset buttons 1 to 6 that you want to listen to.



Searching for PTY

① Select the desired station from among those preset in the preset number buttons 1 to 6. Then, the preset PTY and that preset number are displayed for 5 seconds.

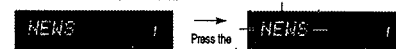


② While the desired type from 6 presets is displayed, take either of the following two steps.

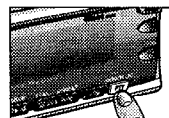
A) Press the same preset button again.

B) Press BAND.

If the desired PTY station is available, it is directly received. If it is not, "NO PTY" blinks and the radio returns to the station that was received before the search.



Press the same button again to cancel.



Canceling of PTY Mode

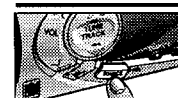
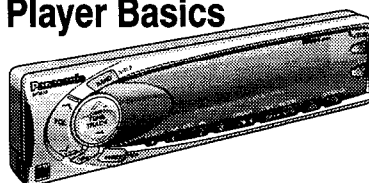
Press PTY to cancel.

The set returns to the state existing before PTY mode while the receiving frequency remains unchanged.

Emergency Announcement Reception

(Some areas are not covered by emergency announcement service.)
If an emergency announcement is broadcast during MD/CD changer mode, the radio is automatically selected to receive the emergency announcement. "ALARM" blinks.

Mini Disc Player Basics



Mode Selection

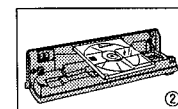
While a disc is inserted, press SOURCE to change the operation mode as follows.

Tuner → MD → CD Changer Control
(When a disc is inserted) (When a CD changer is connected)



To start the MD Player

- Press OPEN to open the front panel.
- With the label side up, insert the disc. Close the front panel manually, and playback starts automatically.



Caution: When the front panel is opened, do not force it down and do not put anything on it since these may result in damage to the unit.

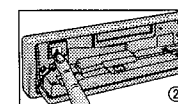
Note: While inserting MD, no sound is heard (MUTE). And the volume is back to the previous level when the front panel is closed completely.

Note: While a disc is inserted, " " indicator will light.



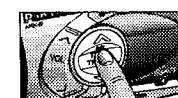
Stopping and Ejecting a Disc

- Press OPEN to open the front panel.
- Press Δ to stop MD play, and the disc will be ejected automatically. Remove it from the MD slot, and close the front panel manually.



Caution: When ejecting an MD, do not close the front panel until the MD is ejected and removed from the MD slot completely.

Note: While ejecting MD, no sound is heard (MUTE). And the volume is back to the previous level when the front panel is closed completely.



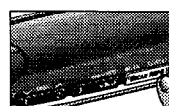
Selecting a Track

- Press TRACK \rightarrow once to go to the next track.
- Press TRACK \leftarrow once to play from the beginning of the track you are listening to. Press twice to play the previous track.
- Press repeatedly to skip the desired number of tracks.



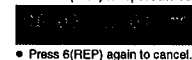
Searching a Track

- Press and hold TRACK \leftarrow or TRACK \rightarrow for more than 0.5 second to activate reverse through or fast forward a track.
- Release TRACK \leftarrow or TRACK \rightarrow to resume the normal MD play.

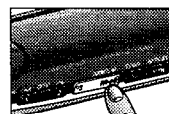


Repeating a Track

- Press 6(REP) to repeat the current selection.



- Press 6(REP) again to cancel.

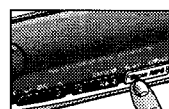


Random Selection

- Press 4(F). A random selection of music is played from all available tracks.

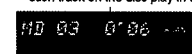


- Press 4(F) again to cancel.



Scanning a Disc

- Press 5(SCAN). The display will blink and the first 10 seconds of each track on the disc play in order.

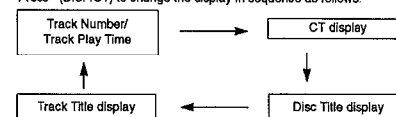


- Press 5(SCAN) again to cancel.



Changing the Display

Press \bullet (DISP/CT) to change the display in sequence as follows.



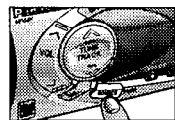
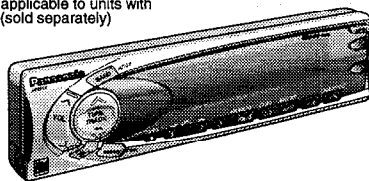
When \bullet (DISP/CT) is pressed for more than 2 seconds while the Track Title or Disc Title appears on the display, the Title display scroll can be switched on or off. (Default: the Title display scroll on)

CD Changer Basics

When the unit is connected with a CD text recognizable CD changer (CX-DP9061EN, for example), CD text can appear on the display.

Note:

CD changer functions are applicable to units with optional CD changer unit. (sold separately)

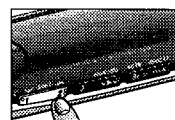


To start the CD Changer

Once the CD changer has been connected, press SOURCE to change to the CD changer mode as follows. When a disc magazine is inserted, CD play starts automatically.

Tuner → MD → CD Changer Control
(When a disc is inserted) (When a CD changer is connected)

1-01 2'34

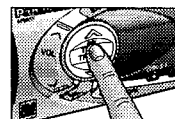


Selecting a Disc

Press 1(DISC V) or 2(DISC ^) to select discs in descending or ascending order.

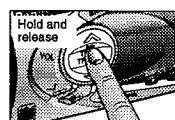
1-01 2'34

Then, the selected disc will start to play from the first track.



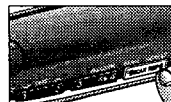
Selecting a Track

- Press TRACK → once to go to the next track.
- Press TRACK ← once to play from the beginning of the current track.
- Press twice to play the previous track.
- Press repeatedly to skip the desired number of tracks.



Searching a Track

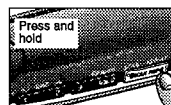
- Press and hold TRACK ← or TRACK → for more than 0.5 second to activate reverse through or fast forward a track.
- Release TRACK ← or TRACK → to resume the normal CD play.



Repeating a Track

- Press 6(REPEAT) to repeat the current selection.

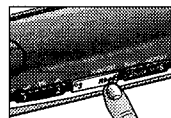
- Press 6(REPEAT) again to cancel.



Repeating a Disc

- Press and hold 6(REPEAT) for more than 2 seconds to repeat the current disc selection.

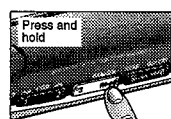
- Press and hold 6(REPEAT) for more than 2 seconds again to cancel.



Track Random

- Press 4(RANDOM). A random selection of music is played from all available tracks on all discs in the magazine.

- Press 4(RANDOM) again to cancel.



Disc Random

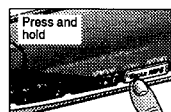
- Press and hold 4(RANDOM) for more than 2 seconds. A random selection of music is played from all available tracks in the current disc.

Note:
Selecting a disc by pressing V/DISC or DISC ^ has priority over the Random play mode. The Random mode will stop and the disc select function will operate once the V/DISC or DISC ^ is pressed.

Scanning Tracks

- Press 5(SCAN). The display blinks and the first 10 seconds of each track on the discs play in sequence.

- Press 5 (SCAN) again to cancel.



Scanning Discs

- Press and hold 5 (SCAN) for more than 2 seconds. The 1st track of all the discs in the magazine is played for 10 seconds each.

- Press and hold 5(SCAN) for more than 2 seconds again to cancel.

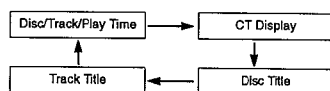
28

CD Changer Basics continued



Changing the Display

Press * (DISP/CT) to change the display as follows.



Disc Title Example

CELINE D

Track Title Example

JE CROIS

When * (DISP/CT) is pressed for more than 2 seconds while the Track Title or Disc Title appears on the display, the Title display scroll can be switched on or off. (Default: the Title display scroll on)

Notes:

- Track title or disc title appears on the display only when the unit is connected to a CD changer that can recognize CD text (CX-DP9061EN, for example).
- "NO TITLE" appears on the display if a disc which does not support the text display has been loaded.

Error Display Messages for MD Player/CD Changer

E1	Displays when the mini disc or compact disc is dirty. In case of MD, the mini disc is ejected automatically. In case of CD changer, the compact disc is skipped and the next disc is selected.
E2	Displays when mini disc or compact disc is scratched. The disc is ejected automatically.
E3	Displays when the mini disc or compact disc stops operating for some reason. Please eject the MD or CD. If the error message E3 is still displayed, please turn off the car engine (ACC off) and remove the fuse from yellow lead for 1 minute. Then reinstall the fuse.
0000	Displays when there is no compact disc in the magazine. (This message is only for CDs.)

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Remote Control Basics

Battery Replacement:

1. Remove the battery holder.

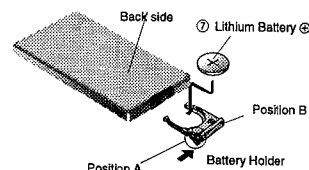
Pull the holder by the Position B while pushing Position A in the direction indicated by the arrow.

2. Replace the battery.

Set a new battery properly with (+) side up as illustrated.

3. Insert the battery holder.

Push in the holder to the original position.



Battery Notes:

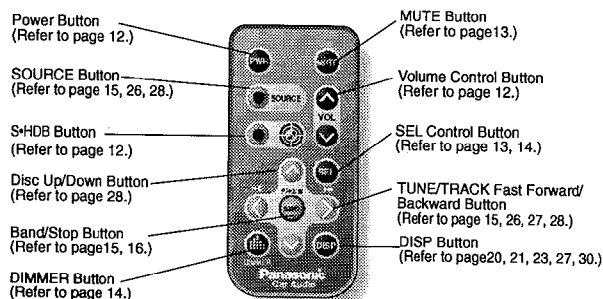
Old battery must immediately be removed and disposed.
Battery Information:

- Designated Battery: Panasonic Lithium Battery (CR2025)
- Battery Life: 6 months with normal use (at normal room temperature)

Caution:
Improper use of batteries may cause overheating, explosion or ignition, resulting in injury or fire. Battery leakage may cause damage to the unit.

- Do not disassemble or short the batteries. Do not throw the batteries into a fire.
- To avoid the risk of accident, keep the batteries out of reach of children.

Names of Main Controls:



31

Anti-Theft System

This unit is equipped with a removable face plate. By removing this face plate, the radio becomes totally inoperable. The security indicator will blink.

To Remove the Removable Face Plate

- ① Switch off the power.
- ② Press the OPEN. The removable face plate will be opened.

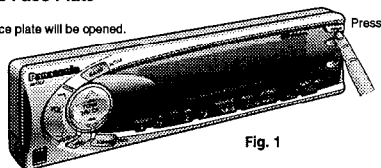


Fig. 1

- ③ Push the face plate to either the right or left, then pull it out toward you.

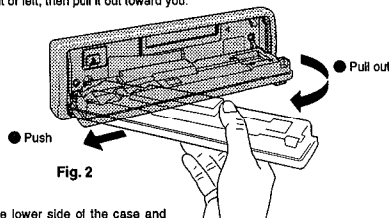


Fig. 2

- ④ As shown in Fig. 3, gently push the lower side of the case and open its cover. Keep the removable face plate in the case. Then, you can bring the plate safely.

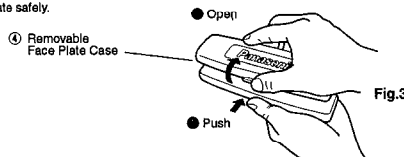


Fig. 3

To install the Removable Face Plate

- ① Fit either of the right or left hole in the face plate over the main unit's pin, and fit it over on the other side while pushing it.

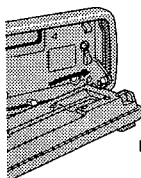
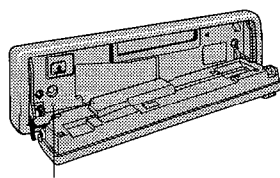


Fig. 4



Security Indicator (See the next page for details.)

- ② After fitting the face plate holes, move the face plate up and down a few times to make sure that it has been fitted securely.

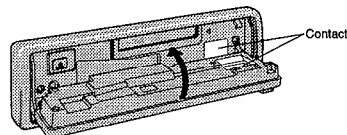


Fig. 5

- ③ Close the front panel and press the right side of the face plate until "click" is heard.

Caution:

1. Before removing the removable face plate, make sure the power is off.
2. This removable face plate is not water-proof. Do not expose it to water or excessive moisture.
3. Do not remove the removable face plate while driving your car.
4. Do not place the removable face plate on the dashboard or nearby areas where the temperature rises to high level.
5. Do not touch the contacts on the removable face plate or on the main unit because this may result in poor electrical contact.
6. If dirt or other foreign substances get on the contacts, wipe them with clean, dry cloth.
7. When the front panel is opened, do not force it down and do not put anything on it because these may result in damage to the unit.

Security Indicator

The security indicator blinks when the removable face plate is removed from the unit. (See Fig. 4 on the previous page.)

Activate Security Indicator

1. Press and hold SEL for more than 2 seconds to change to the display control mode. Press SEL to change to the security mode. (LED ON/OFF)
Press TUNE/V or TUNE^ to turn the LED on/off.

(Default: The security indicator is on.)

2. To check whether the LED ON or OFF, make sure that the security indicator blinks when the removable face plate is removed.

Display	Security Indicator	Panel Removal Alarm
LED ON	Blinks (Press TUNE/V or TUNE^.)	ON
LED OFF	OFF	OFF

Panel Removal Alarm

This alarm sounds to warn you not to forget to remove the panel before leaving your car. This function is activated when the security indicator is on.

32

Installation

Preparation

- Before installation, check the radio operation with antenna and speakers.
- Disconnect the cable from the negative (-) battery terminal (see caution below).
- Unit should be installed in a horizontal position with the front end up at a convenient angle, but not more than 30°.

Caution:

For installation to cars with trip or navigational computers, all electronic memory settings previously registered in the computer will be lost when the battery terminal is disconnected. For this type of car, battery could not be disconnected. Therefore, extra care should be taken to prevent short circuiting.

In-dash Installation

Installation Opening

In-dash installation can be done if the car's dashboard has an opening for this unit as shown in Fig. 1. The car's dashboard should have a thickness of 4.5mm - 6mm in order to make the installation of the unit.

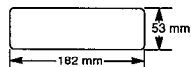


Fig. 1

Installation Precautions

- This equipment, if possible, should be installed by a professional installer. In case of difficulty, please consult your nearest authorized Panasonic Service Center.
1. This system is to be used only in a 12-volt, DC battery system (car) with negative ground.
 2. Follow the electrical connection on page 37 carefully, or the unit may be damaged.
 3. Connect the power lead after other connections are made.
 4. Be sure to connect the YELLOW lead to the positive terminal (+) of the battery or fuse block (BAT) terminal.
 5. Insulate all exposed wires to prevent short circuiting.
 6. Secure all loose wires after installing the unit.
 7. Please carefully read the operating and installation instructions of the respective equipment before connecting it to this unit.

Supplied Hardware

No.	Item	Diagram	Q'ty
①	Mounting Collar		1
②	Mounting Bolt (5 mm)		1
③	Power Connector		1
④	Removable Face Plate Case		1

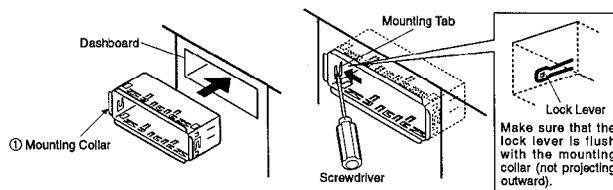
No.	Item	Diagram	Q'ty
⑤	Remote Control Unit		1
⑥	Trim Plate		1
⑦	Lithium Battery		1
⑧	ISO Antenna Adaptor		1

Installation Procedures

Note: Disconnect the cable from the negative (-) battery terminal.

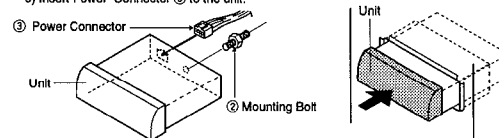
1. Secure the Mounting Collar ①.

Insert Mounting Collar ① into the car's dashboard, and bend mounting tabs out with a screwdriver.



2. Secure the rear of the unit.

- a) Check the electrical connection by referring to this operating Instructions.
- b) Connect the Mounting Bolt ② using a suitable wrench.
- c) Insert Power Connector ③ to the unit.



- d) Insert the unit into Mounting Collar ① and push it in until "click" is heard.

- e) Secure the rear of the unit to the car by either of the following two recommended methods.

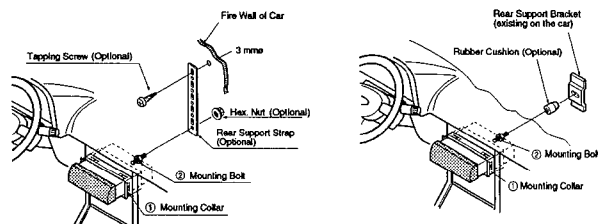
■ Using the Rear Support Strap (Optional)

Attach one end of the Rear Support Strap to the rear of the unit, and the other end to the Fire Wall of car, or some other metallic area.

■ Using the Rubber Cushion (Optional)

(If there is an existing Rear Support Bracket on the Fire Wall of car.)

Cover Mounting Bolt ② on the rear of the unit with Rubber Cushion, and mount it into the existing Rear Support Bracket.



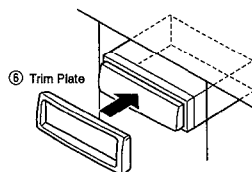
33

34

35

Installation continued

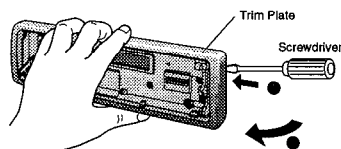
3. Install the Trim Plate ⑥.



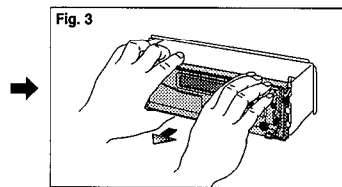
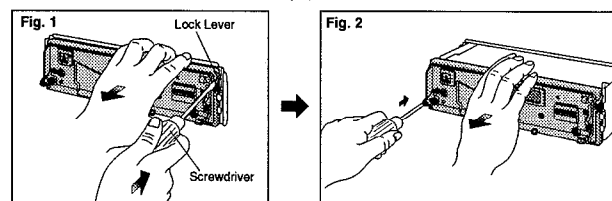
4. After installation, reconnect the negative (-) battery terminal.

To Remove the Unit

- Remove the removable face plate. (See page 32.)
- Remove the trim plate with a screwdriver as shown in the figure.



- Pull out the unit white pushing the lock lever using Screwdriver. (Fig. 1, Fig. 2)
- Remove the unit pulling with both hands. (Fig. 3)



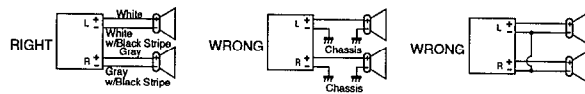
36

Speaker Connections

Cautions:

- Use ungrounded speakers only.
- The speakers to be used with this unit should be able to handle more than 40W of audio power. If an external amplifier is used, the speakers should be able to handle the maximum output power of the amplifier. Use of speakers with small input ratings can cause damage to the speakers.
- The speaker impedance should be 4 - 8 ohms. If the impedance is too large or too small, it affects the output and may cause damage to the speakers or this unit.
- Do not use 3-wire type speaker system having a common earth lead. Never connect the speaker cord to the body of the car. This unit uses the BTDL circuit, so each speaker should be connected separately using parallel vinyl insulated cords.
- The speaker cords and the power amplifier unit should be kept away (about 30cm apart) from the antenna end antenna extension cord.
- Follow the connection diagram below carefully. Failure to do so may cause damage to both unit and speakers.

- Unit will be damaged if speakers (Front, Rear) are not connected properly.



- Do not connect more than one speaker to one set of speaker leads.

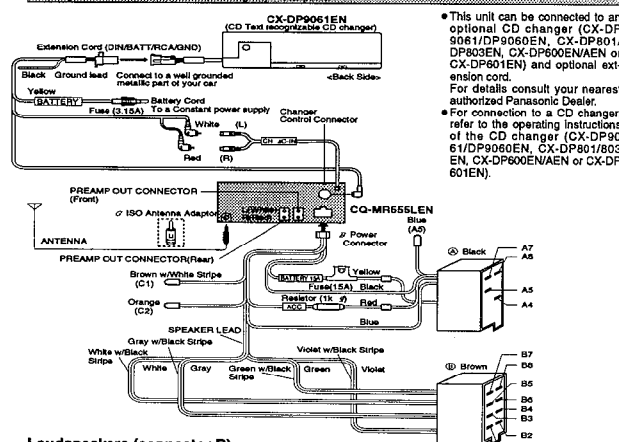


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Electrical Connection

Cautions:

- Confirm the note on page 4, and make connections to the connection on car side.
- To prevent damage to the unit, be sure to follow the connection diagram below.
- Remove the covering of the leads about 5 mm long from their end before connecting. (The cords except for ISO connector's cords)
- Do not insert the power connector into the unit until the wiring is completed.
- Be sure to insulate any exposed wires from a possible short-circuit from the car chassis. Bundle all cables and keep cables themselves free from touching any metal parts.



• This unit can be connected to an optional CD changer (CX-DP 5061/DP9060EN, CX-DP801/DP803EN, CX-DP800EN/AEN or CX-DP801EN) and optional extension cord.
For details consult your nearest authorized Panasonic Dealer.
• For connection to a CD changer, refer to the operating instructions of the CD changer (CX-DP90 61/DP9060EN, CX-DP801/803 EN, CX-DP800EN/AEN or CX-DP 801EN).

Loudspeakers (connector B)

	Left +	Left -	Right +	Right -
Front	B5 (White)	B6 (White w/Black Stripes)	B3 (Gray)	B4 (Gray w/Black Stripes)
Rear	B7 (Green)	B8 (Green w/Black Stripes)	B1 (Violet)	B2 (Violet w/Black Stripes)

- A4**
BATTERY LEAD (To Battery of Car) (Yellow)
Connect to the "BAT" terminal on the fuse block of the car. The power should be supplied continuously to the yellow leads regardless of the on/off position of the ignition key.
- A5**
MOTOR ANTENNA RELAY CONTROL LEAD (Blue)
(To Motor Antenna) (Max. 500mA)
This lead is not intended for use with switch actuated power antenna.
- AMP-RELAY CONTROL POWER LEAD**
This lead is for connection to Panasonic power amplifier.
- A7**
POWER LEAD (Red)
Connect to the "IGN" power line of the car or to the "IGN" or "ACC" terminal of the fuse block.

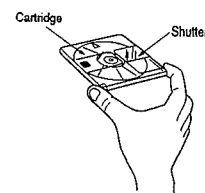
- A8**
GROUND LEAD (Black)
Connect to a well grounded metallic part of your car.
- C1**
Not used
- C2**
TELEPHONE MUTE LEAD (Orange)
(To car telephone mute line)
TELEPHONE MUTE
The telephone mute lead, if connected to the car telephone mute line, will activate the muting circuit and the sound from the speakers cannot be heard while the telephone conversation is in progress.
Note: This telephone mute lead is for connection only to the radio mute line. Be sure to ascertain this because it will not work with other type of output system.

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Notes on Mini Discs (MD)

How to Handle MDs

- An MD is held in a cartridge to protect the MD from foreign matter and fingerprints. Great care must be taken in dealing with an MD in consideration of the following because a dirty or deformed cartridge can cause malfunction or sound quality deterioration.
- Never open the shutter of an MD cartridge to avoid damaging to the cartridge.
 - Never insert an MD cartridge if a label on it is about to come off. Otherwise, the label might be stuck in the unit, and cause a trouble.
 - Data MD is not available for the unit. Make sure to use music MDs.



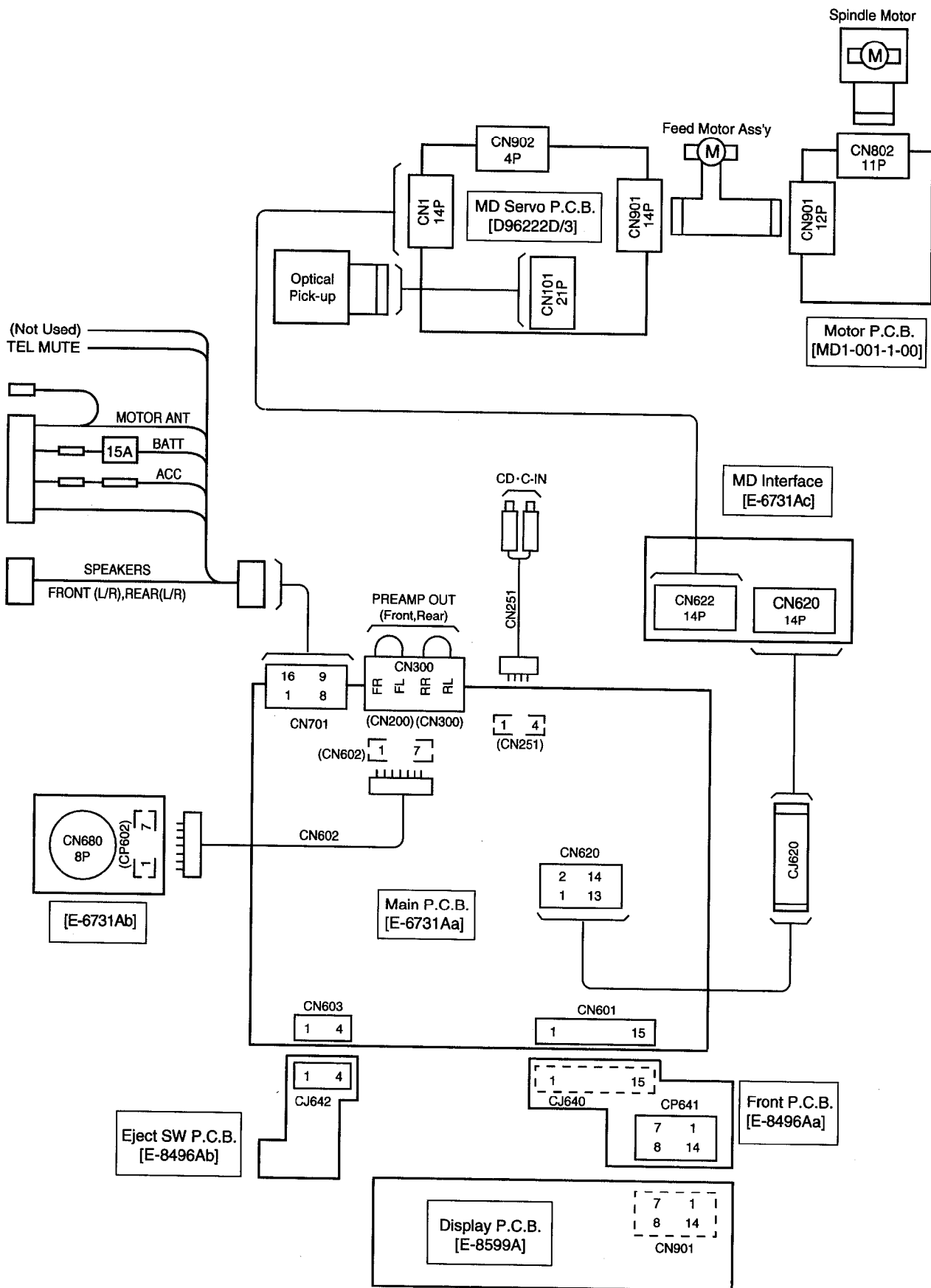
How to Store MDs

- If you do not play an MD for a long time, remove the MD from the unit and keep it in an exclusive case to protect it from dust, scratch, curvature, or other damage.
- Avoid leaving MDs at any of the following places.
 - A place exposed to direct sunlight for a long time
 - A humid or dusty place
 - A place exposed to direct heat from heaters.
 - Seats or dashboard in a car

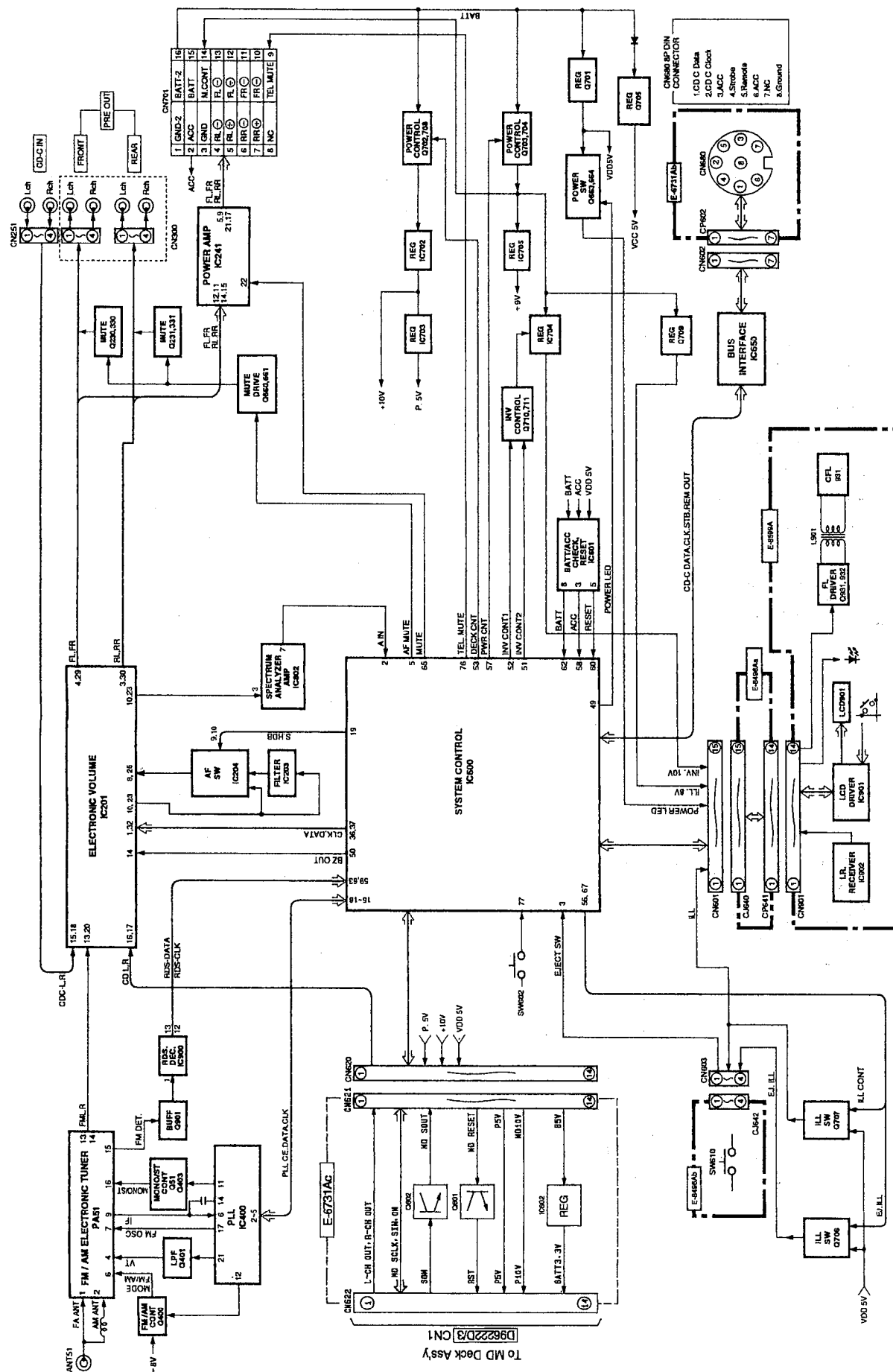
How to cleaning MDs

If an MD cartridge became dirty, use dry cloth to wipe a stain off.
Even when cleaning, never open the shutter.

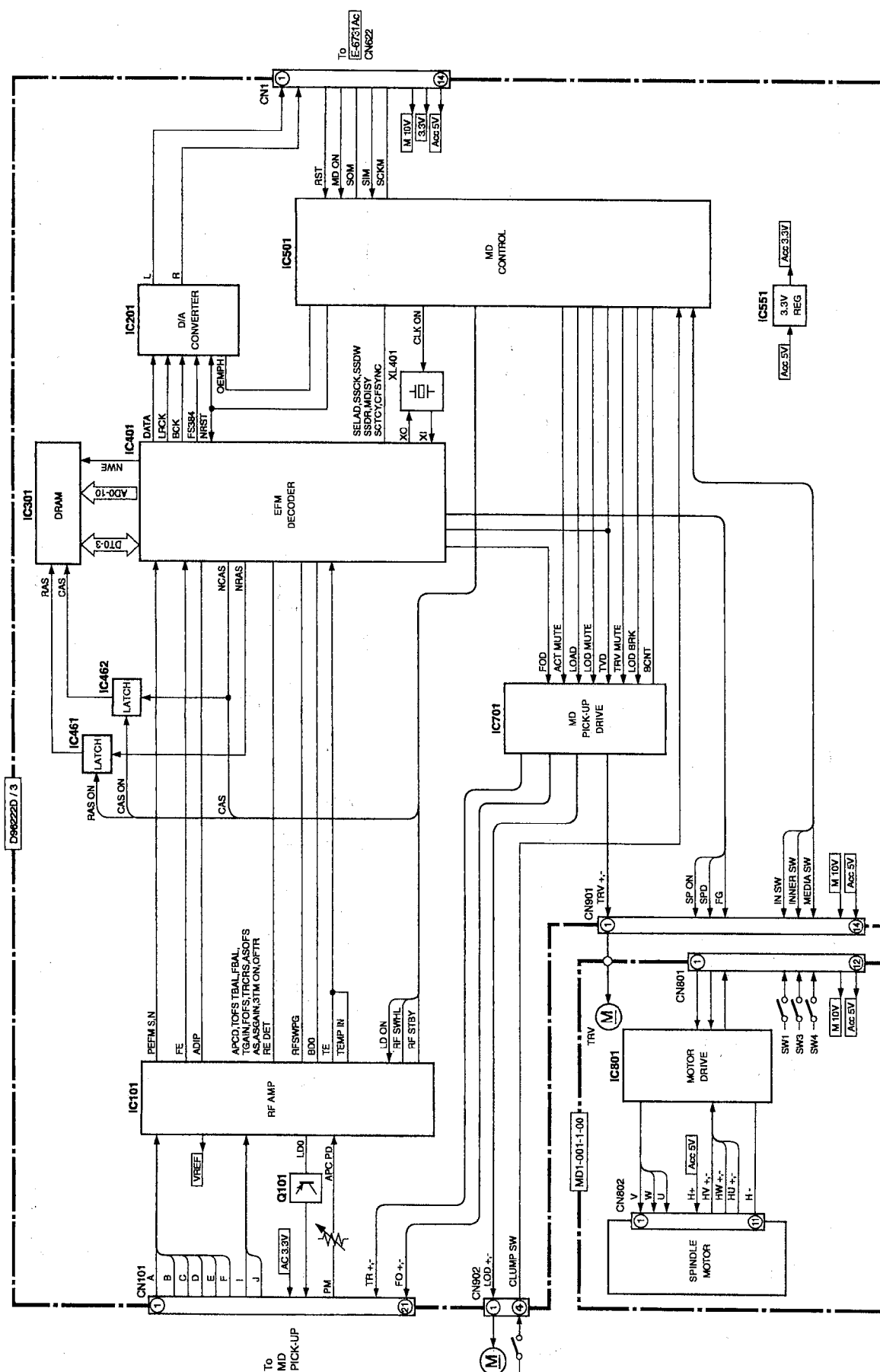
WIRING CONNECTION



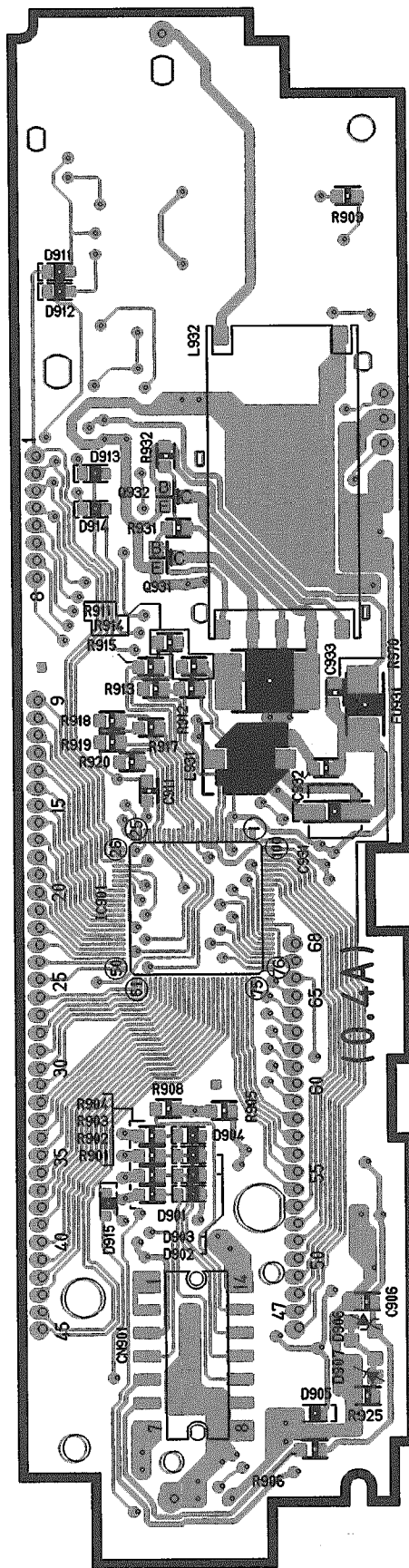
BLOCK DIAGRAM MODEL CQ-MR555LEN



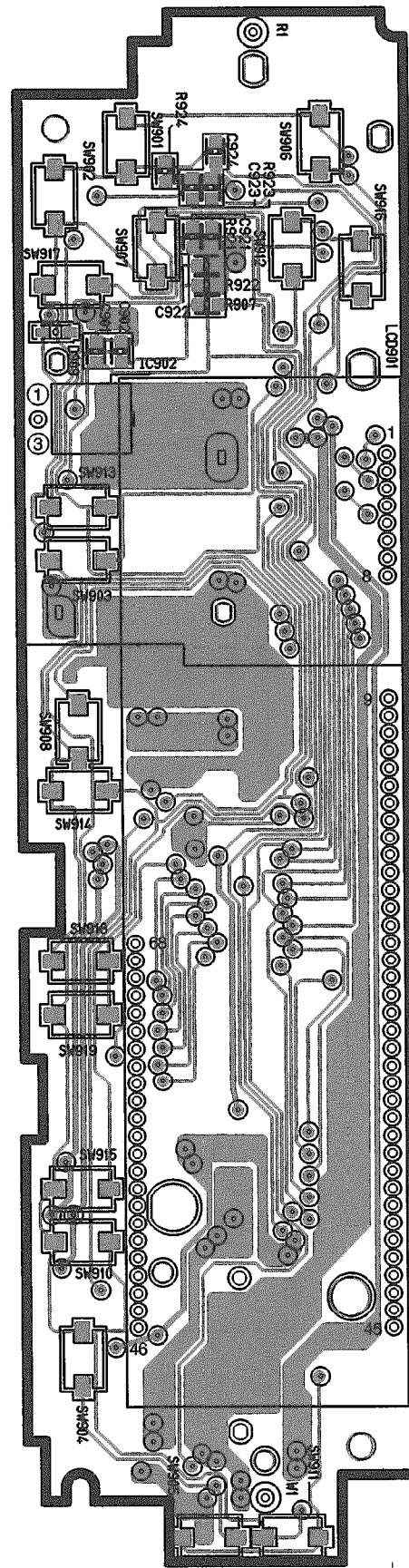
BLOCK DIAGRAM <MD Servo Block> MODEL CQ-MR555LEN



WIRING DIAGRAM (Display Block) MODEL CQ-MR555LEN

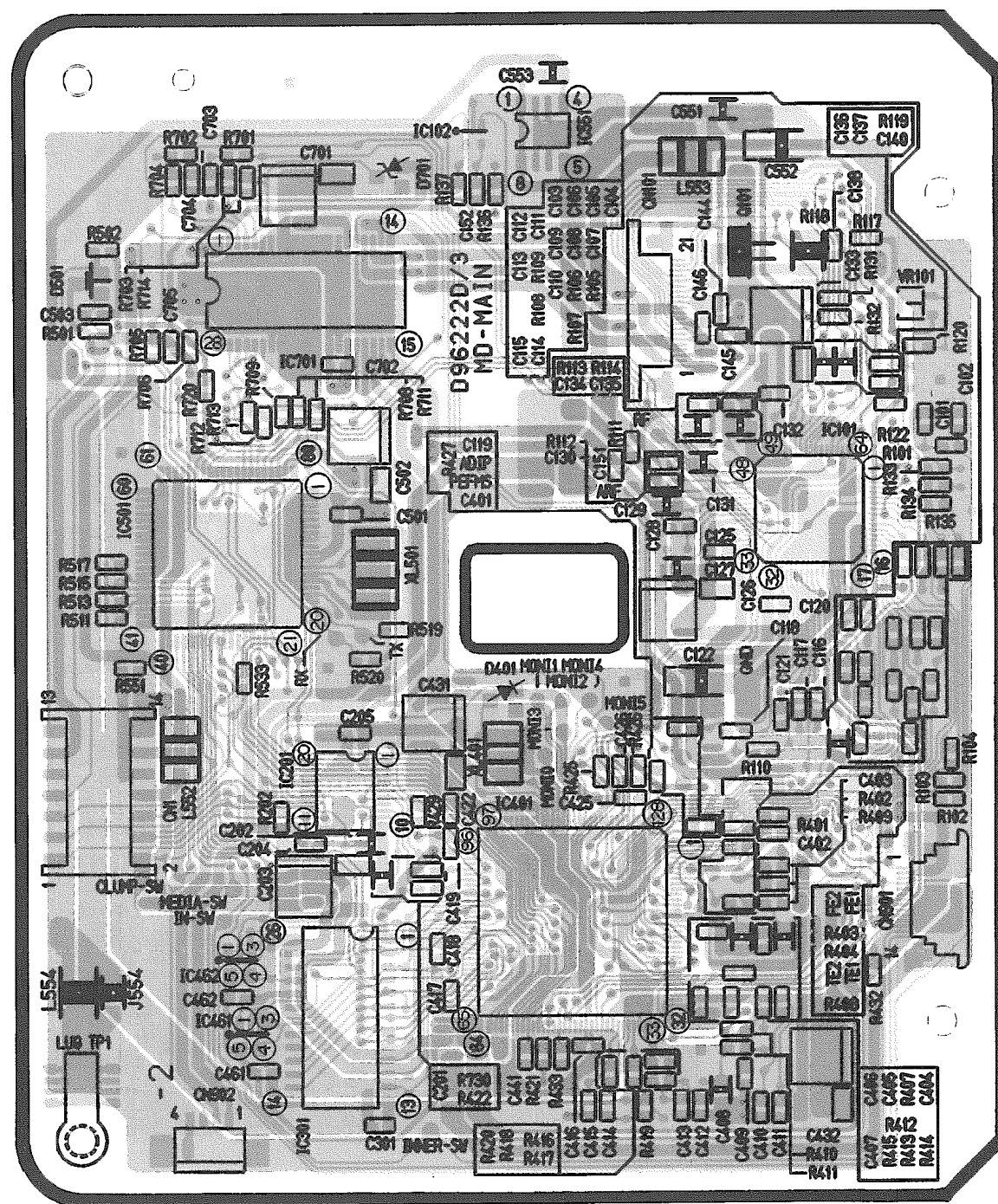


[E-8599A] <BOTTOM VIEW>

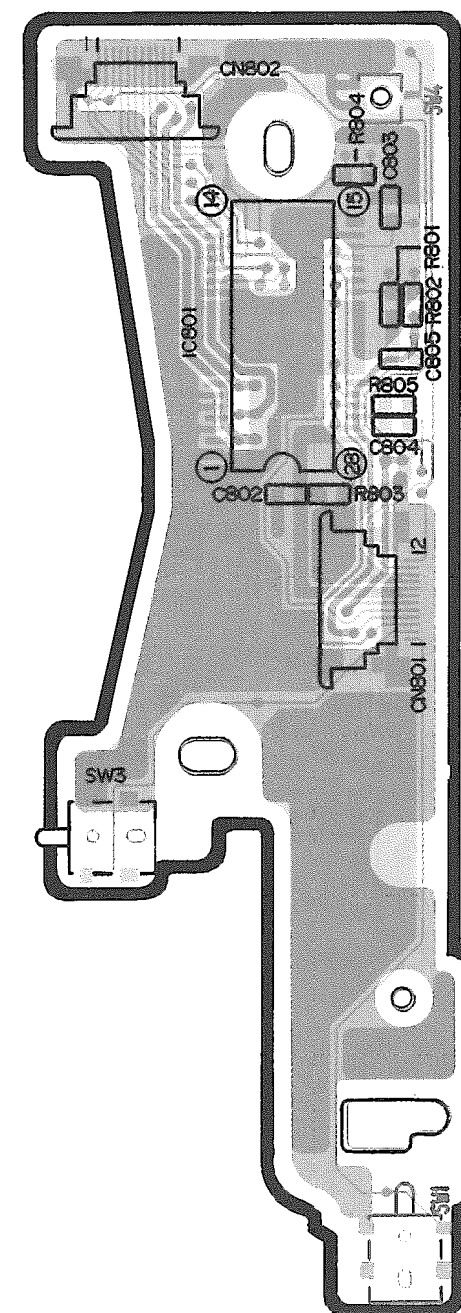


[E-8599A] <TOP VIEW>

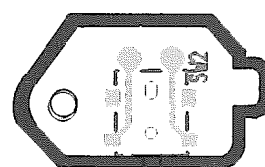
WIRING DIAGRAM (MD Servo Block) MODEL CQ-MR555LEN



[D96222D/3]

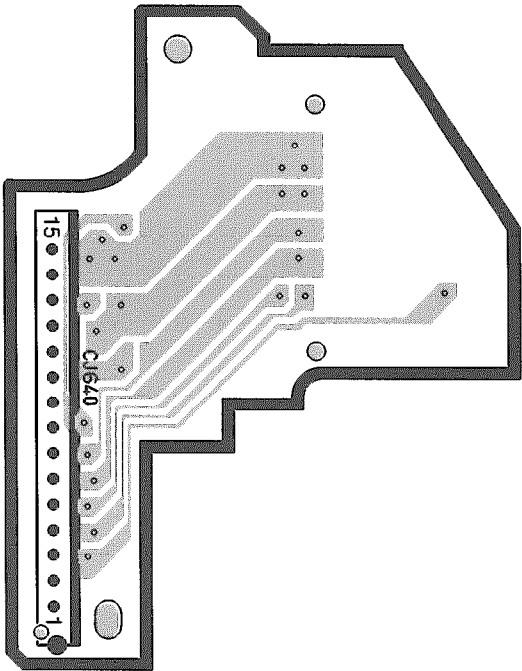


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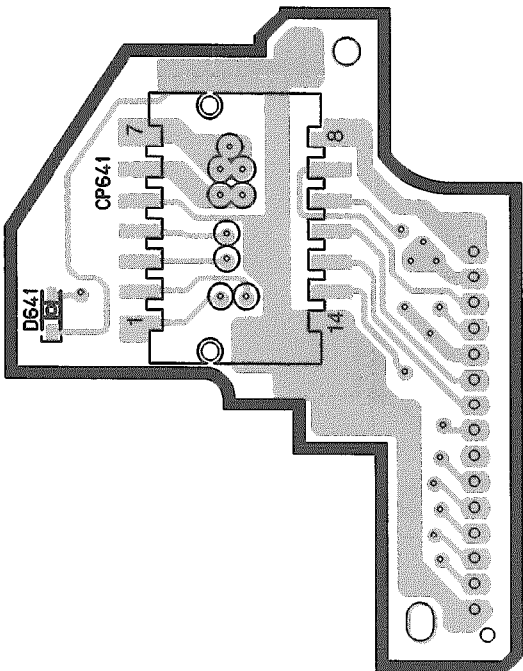


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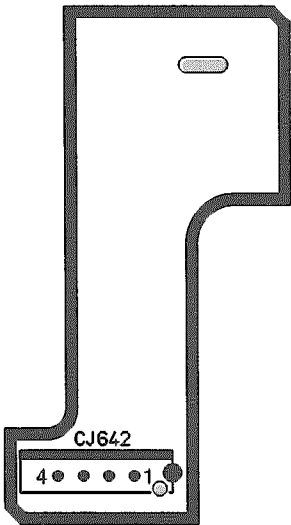
WIRING DIAGRAM (Front/Eject SW Block) MODEL CQ-MR555LEN



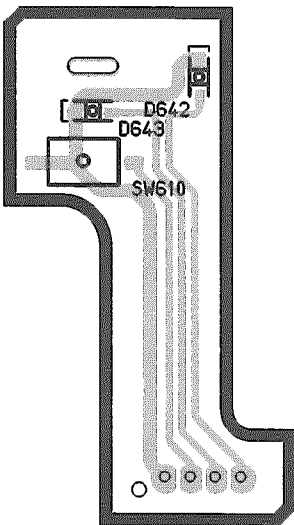
[E-8496Aa]
<BOTTOM VIEW>



[E-8496Aa]
<TOP VIEW>

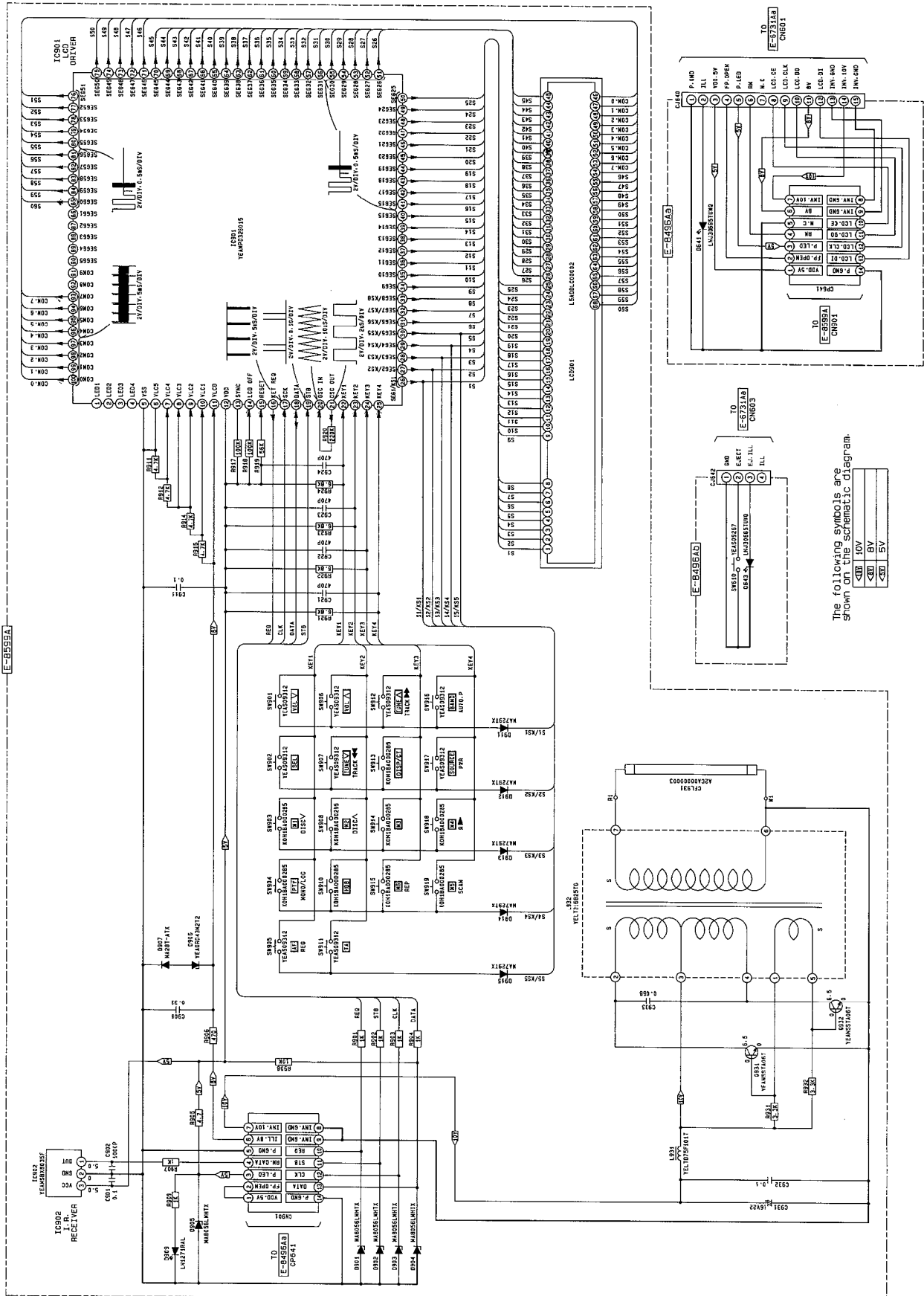


[E-8496Ab]
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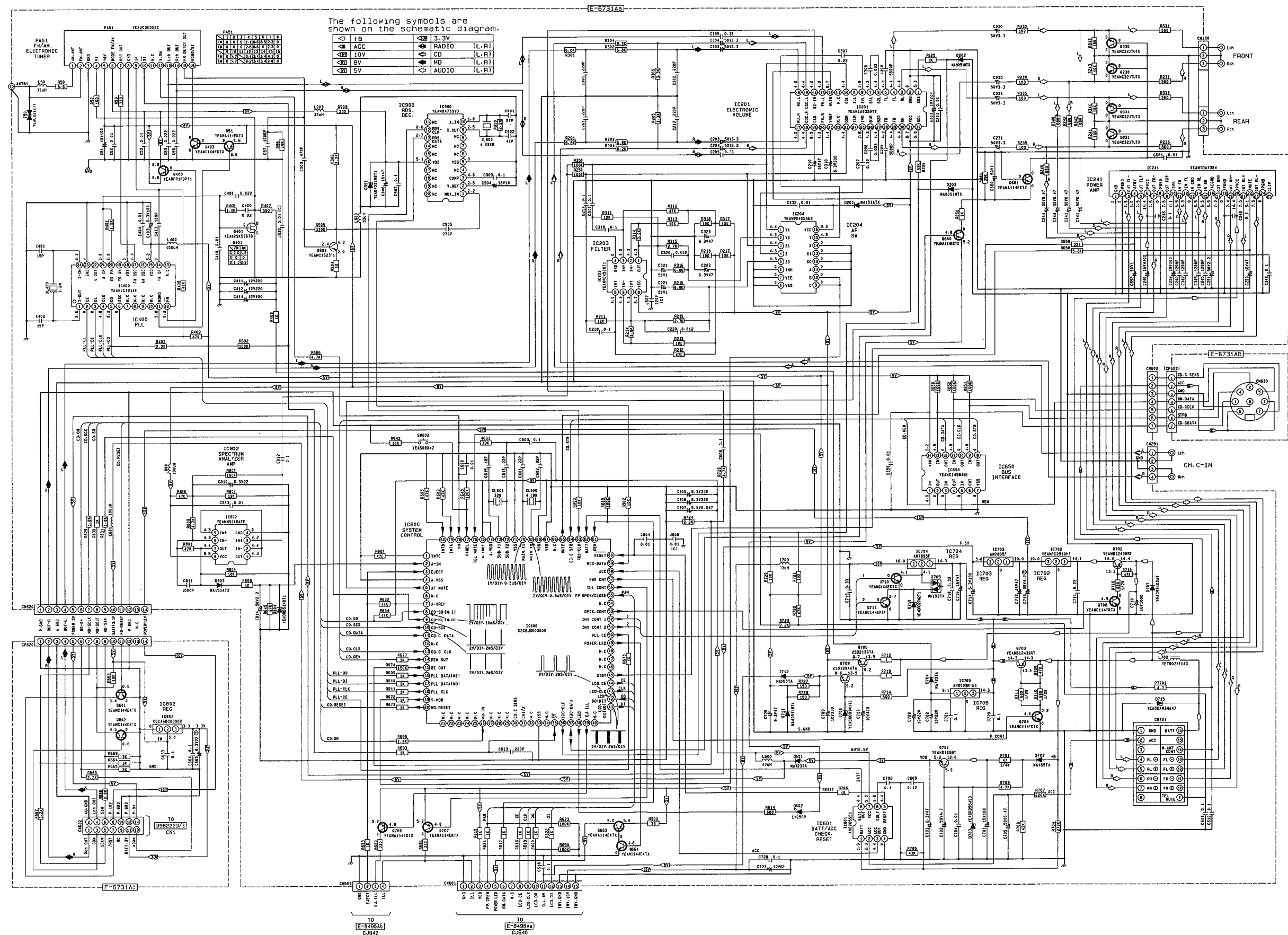


[E-8496Ab]
<TOP VIEW>

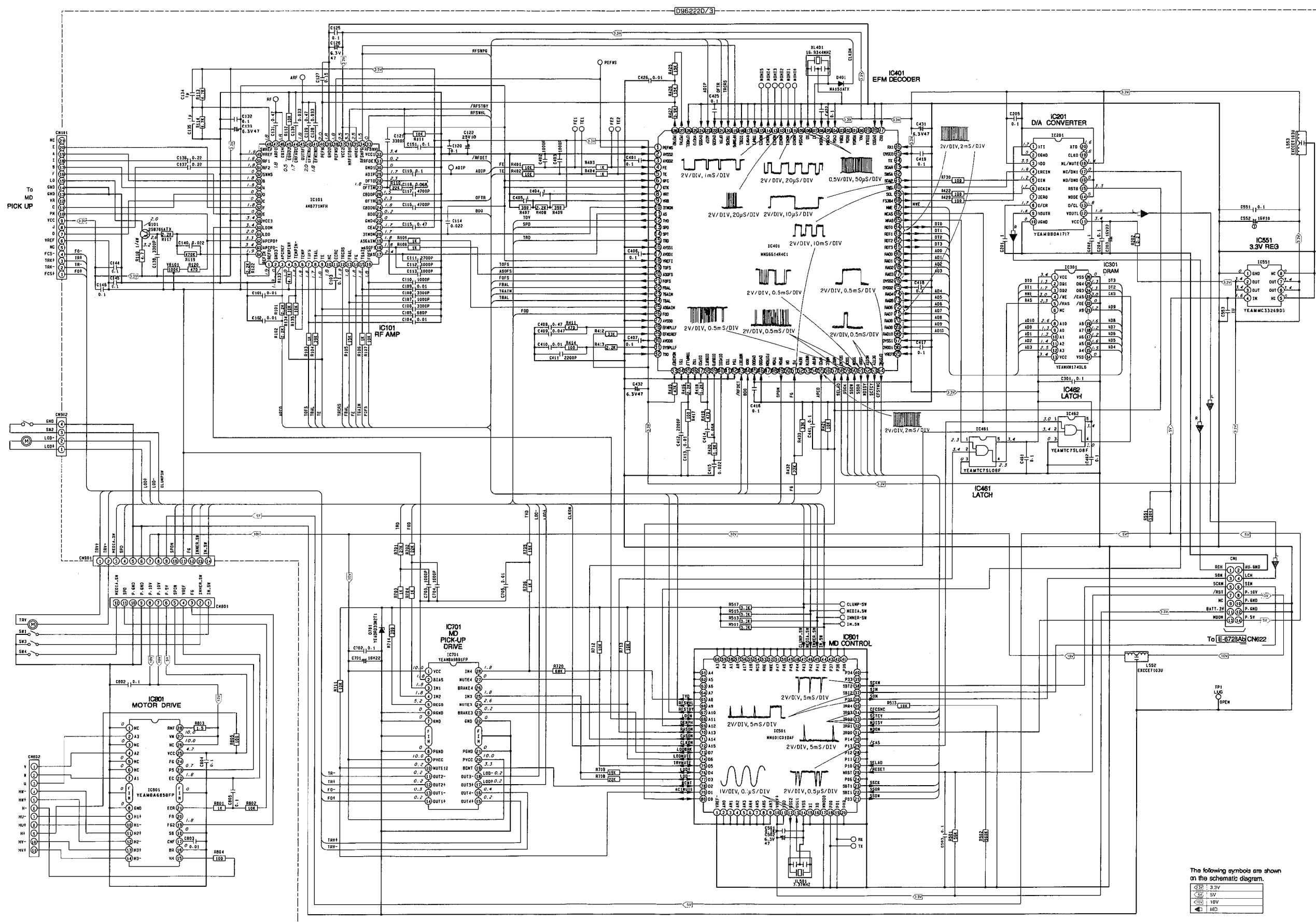
SCHEMATIC DIAGRAM (Display/Front/Eject SW Block) MODEL CQ-MR555LEN



SCHEMATIC DIAGRAM (Main/MD Interface Block) MODEL CQ-MR555LEN



SCHEMATIC DIAGRAM (MD Servo Block) MODEL CQ-MR555LEN



TERMINALS DESCRIPTION (1)

■ IC600 C2CBJG000005

Pin No.	Name	Description	Vol.(V)			
			I/O	AM	FM	MD
1	INTC	Initial C	I	0	0	0
2	A-IN	Spectrum Analyzer Level Meter Signal	I	0	0	0
3	EJCT	Eject Signal Detect	I	4.8	4.8	4.8
4	A VSS	Ground (for A/D Converter)	—	0	0	0
5	AF MUTE	Audio Mute	O	4.8	4.8	4.8
6	SEL CONT	Spectrum Analyzer Output Select	O	0	0	0
7	A VREF	Analog Reference Voltage	—	4.8	4.8	4.8
8	MODE 1	MD Deck Data	I	4.5	4.7	4.5
9	MD SIN	MD Deck Data	O	0	0	0
10	MODE 3	MD Deck Data Clock	O	4.7	4.7	4.7
11	CD .C DATA	CD Changer Data Input	I	0	0	0
12	(NC)	—	—	—	—	—
13	CD.C CLK	CD Changer Data Clock	I	0	0	0
14	REM OUT	Remote Controller Data	O	4.8	4.8	4.8
15	PLL CE	PLL Chip Enable	O	0	0	0
16	PLL DATA (NI)	PLL Serial Data Input	I	5.0	5.0	5.0
17	PLL DATA (MO)	PLL Serial Data Output	O	0	0	0
18	PLL CLK	PLL Serial Data Clock	O	0	0	0
19	STBY	Standby Output (for Power Amp IC)	O	4.8	4.8	4.8
20	MMT F	MD Reset Output	O	0	0	0
21	SMT F (NC)	—	—	—	—	—
22	DOLBY (NC)	—	—	—	—	—
23	F/R (NC)	—	—	—	—	—
24	MS GAIN (NC)	—	—	—	—	—
25	MTL (NC)	—	—	—	—	—
26	SMT R	MD On Output	O	4.8	4.8	4.8
27	R. REEL	(Not Used) (Pull Down)	—	—	—	—
28	F. REEL (NC)	—	—	—	—	—
29	MS IN (NC)	—	—	—	—	—
30	T IN (NC)	—	—	—	—	—
31	CONT A	Spectrum Analyzer Output Select A	O	4.8	4.8	4.8
32	CONT B	Spectrum Analyzer Output Select B	O	4.8	4.8	4.8
33	VSS	Ground	—	0	0	0
34	CONT C	Spectrum Analyzer Output Select B	O	4.8	4.8	4.8
35	ST	FM Stereo Signal Input	I	0	5.0	0
36	I2C CLK	Electronic Volume Clock	O	5.0	5.0	5.0
37	I2C DATA	Electronic Volume Control Data	I/O	5.0	5.0	5.0
38	LED (NC)	—	—	—	—	—
39	EJ ILL	Eject Button Illumination Control	O	5.0	5.0	5.0
40	BZ IN	(Not Used)	—	—	—	—

Pin No.	Name	Description	Vol.(V)			
			I/O	AM	FM	MD
41	LCD DI (DATA)	LCD Data Output	O	4.6	4.7	4.7
42	LCD DO (STB)	LCD Data Strobe	O	0	0	0
43	LCD CLK (CLK)	LCD Data Clock	O	4.7	4.7	4.7
44	LCD CE	Key Request	I	0	0	0
45	CFL CNT	Inverter Voltage Control	O	4.8	4.8	4.8
46	ANT CONT	Motor Antenna Control	O	4.8	4.8	0
47	ILL C	External Illumination Detection	I	5.0	5.0	5.0
48	CH 1, 2	Changer Control Select Signal	O	0	0	0
49	POWER LED	Power LED Control Output	O	4.8	4.8	4.8
50	BZ OUT	Buzzer Signal Output	O	0	0	0
51	INV CONT2	Inverter Voltage Control 2	O	0	0	0
52	INV CONT1	Inverter Voltage Control 1	O	0	0	0
53	DECK PW CNT	MD Deck Power Control	O	4.8	4.8	4.8
54	CD.C SENS	Twin Changer Adapter Detection	I	5.0	5.0	5.0
55	FP OPEN/CLOSE	Panel Open/Close Detection	I	5.0	5.0	5.0
56	ILL CONT	Illumination Control Signal	O	4.8	4.8	4.8
57	PWR CONT	*POWER* On/Off Control	O	4.8	4.8	4.8
58	ACC	ACC Detection	I	4.8	4.8	4.8
59	(NC)	—	—	—	—	—
60	RESET	Reset	I	4.8	4.8	4.8
61	REM	Remote Control Data Input	I	4.3	4.3	4.3
62	BATT	Battery Voltage Detection	I	4.8	4.8	4.8
63	(NC)	—	—	—	—	—
64	CD.C STB	CD Changer Strobe Signal	I	0	0	0
65	MUTE	Mute Control	O	4.8	4.8	4.8
66	MODE2 (NC)	—	—	—	—	—
67	VSS	Ground	—	0	0	0
68	VDD	Connecting to +5V	—	4.8	4.8	4.8
69	X2	Crystal Oscillator	O	2.7	2.7	2.7
70	X1	Crystal Oscillator	I	2.2	2.2	2.2
71	VSS	Ground	—	0	0	0
72	(NC)	—	—	—	—	—
73	(NC)	—	—	—	—	—
74	A VDD	Connecting to +5V	—	4.8	4.8	4.8
75	A VREF	Analog Reference Voltage	—	4.8	4.8	4.8
76	TEL MUTE	Telephone Mute Signal Input	I	5.0	5.0	5.0
77	PANEL	Panel Open Detection	I	0.4	0.4	0.4
78	SD	FM/AM SD Signal Input	I	3.7	1.9	3.7
79	INTA	Initial A	I	0	0	0
80	INTB	Initial B	I	0	0	0

■ IC901 YEAMPD32B015

Pin No.	Name	Description	I/O	Vol.(V)
1 - 4	LED1 - LED4(NC)	—	—	—
5	VSS	(Connecting to Ground)	—	0
6	VLC5	LCD Control Voltage 5	I	0
7	VLC4	LCD Control Voltage 4	I	1.8
8	VLC3	LCD Control Voltage 3	I	3.5
9	VLC2	LCD Control Voltage 2	I	3.5
10	VLC1	LCD Control Voltage 1	I	5.0
11	VLCD	LCD Drive Voltage	I	7.0
12	VDD	(Connecting to +5V)	—	5.0
13	SYNC	Synchronize Input	—	5.0
14	LCD OFF	LCD Control (LCD Off)	I	5.0
15	RESET	Reset	I	5.0

Pin No.	Name	Description	I/O	Vol.(V)
16	REQ	Key Request Output	O	0
17	CLK	Shift Control Clock Input	I	4.8
18	DATA	Data In/Out	I/O	1.3
19	STB	Strobe Input	I	1.0
20	OSC IN	Oscillator Input	I	2.6
21	OSC OUT	Oscillator Output	O	2.8
22 - 25	KEY1 - KEY4	Key Scan Input	I	5.0
26 - 33	SEG1/KS1 - SEG8/KS8	Segment/Key Scan Output	O	3.5
34 - 85	SEG9 - SEG80	Segment Output	O	3.5
86 - 92	SEG61/COM14 - COM9, COM8 (NC)	—	—	—
93 - 100	COM7 - COM0	Common 7 - 0	O	3.5

TERMINALS DESCRIPTION (2) <MD Servo Block-1>

■ IC401 MN66614R4C1

Pin No.	Port	Description	I/O	Vol. (V)
1	PEFMS	FEM Data Slice Input	I	1.8
2	AVSS2	Analog GND	I	0
3	AVDD2	+3.3V Power Supply for Analog	I	3.4
4	FE	Focus Error Signal	I	1.8
5	TE	Tracking Error Signal	I	1.8
6	GFC	Focus Acceleration Sensor Input	I	1.8
7	GTK	Tracking Acceleration Sensor Input	I	1.8
8	VRT	Positive Reference Voltage for A/D Converter	I	2.8
9	VRB	Negative Reference Voltage for A/D Converter	I	0.7
10	3TMON	FEM 3T Signal Envelope Input	I	1.7
11	AS	Beam Sum Signal	I	2.4
12	TVD	Traverse Drive/Stepping Motor Drive Signal	O	1.8
13	SPD	Spindle Drive Signal	O	1.9
14	STP (NC)	—	—	—
15	TRD	Tracking Drive Signal	O	1.8
16	AVSS1	Analog GND	I	0
17	AVDD1	+3.3V Power Supply for Analog	I	3.4
18	VREF1	Reference Voltage Input	I	1.8
19	TOFS	TE Offset Adjust Output	O	1.8
20	ASOFS	AS Offset Adjust Output	O	1.8
21	FOFS	FE Offset Adjust Output	O	1.8
22	FBAL	FE Balance Adjust Output	O	1.8
23	TGAIN	TE Gain Adjust Output	O	1.7
24	TBAL	TE Balance Adjust Output	O	1.8
25	ASGAIN	AS Gain Adjust Output	O	1.8
26	FOD	Focus Drive Signal	O	1.8
27	AVSS0	Analog GND	I	0
28	FEMPLLF	Filter Input for EFM PLL	I	1.8
29	EFMIREF	Current Control Input for EFM PLL	I	1.3
30	AVDD0	+3.3V Power Supply for System Clock PLL	I	3.4
31	SISPLLF	Filter Input for	I	1.8
32	TS0	(Connecting to GND)	I	0
33	MDAIREF	Current Control Input for System Clock PLL	I	1.3
34	TS1	(Connecting to GND)	I	0
35	TRNPLLF	Filter Input for Internal Clock PLL	I	3.4
36	TS2	(Connecting to GND)	I	0
37	DIPCO	PLL PD Output to Digital Audio Interface	O	3.4
38	DIBUFI	Integrate Amplifier Input from Digital Audio Interface	I	2.5
39	DIBUFO	Integrate Amplifier Output to Digital Audio Interface	O	0
40	DIVCOI	VCO Control Voltage Input from Digital Audio Interface	I	0
41	TS3	(Connecting to GND)	I	0
42	TS4	(Connecting to GND)	I	0
43	NRFDET	EMF Detection Signal (L:Detect)	I	0.2
44	BDO	AS Drop Out Signal (H:Drop Out)	I	0.2
45	DVDD0	+3.3V Power Supply for Digital	I	3.4
46	DVSS0	Digital GND	I	0
47	FOTRON (NC)	—	—	—
48	TVON (NC)	—	—	—
49	SPON	Spindle Drive ON Signal	O	3.4
50	DR (NC)	—	—	—
51	FG	FG Input	I	1.5
52	REFM (NC)	—	—	—
53	NREFM (NC)	—	—	—
54	HFRP (NC)	—	—	—
55	APCD	Laser Power Setting PWM Output	O	1.9
56	NREC (NC)	—	—	—
57	NRST	Hardware Reset (L:Reset)	I	3.3
58	SELAD	Command Address Select Signal	I	0.6
59	SSCK	Command Serial Clock Signal	I	3.3
60	SSDW	Command Serial Write Data	I	0.6
61	SSDR	Command Serial Read Data	O	2.2
62	MDISY	CD ROM Sector sync Signal	O	0.2
63	SCTCY	SUBQ/ADIP Sync Signal	O	0.2
64	CFSYNC	ATRAAC Frame Sync Signal	O	0.2

Pin No.	Port	Description	I/O	Vol. (V)
65	VREF5	Reference Voltage for Signal Level	I	3.4
66	DVDD1	+3.3V Power Supply for Digital	I	3.4
67	DVSS1	Digital GND	I	0
68	RAD10	DRAM Address 10 (MSB)	O	1.6
69	RAD9	DRAM Address 9	O	1.6
70	RAD8	DRAM Address 8	O	1.6
71	RAD7	DRAM Address 7	O	1.6
72	RAD6	DRAM Address 6	O	1.6
73	RAD5	DRAM Address 5	O	1.8
74	RAD4	DRAM Address 4	O	1.6
75	DVDD2	+3.3V Power Supply	I	3.4
76	DVSS2	Digital GND	I	0
77	RAD3	DRAM Address 3	O	1.5
78	RAD2	DRAM Address 2	O	1.8
79	RAD1	DRAM Address 1	O	1.8
80	RAD0	DRAM Address 0 (LSB)	O	2.7
81	RDT3	DRAM Data 3 (MSB)	I/O	1.6
82	RDT2	DRAM Data 2	I/O	1.6
83	RDT1	DRAM Data 1	I/O	1.8
84	RDT0	DRAM Data 0 (LSB)	I/O	2.5
85	NRAS	DRAM Lower Address Strobe	O	2.5
86	NCAS	DRAM Column Address Strobe	O	2.3
87	NWE	DRAM Write Enable	O	1.8
88	FS384	384Fs Output	O	1.7
89	SCL	Bit Clock Output (64Fs)	O	1.8
90	SW6	Rear Compression Word Clock Output (Fs)	O	1.2
91	SDAP	Audio Data Output to D/A Converter	O	1.8
92	SWSA (NC)	—	—	—
93	SDAR	Audio Data Input from A/D Converter	I	0
94	TX (NC)	—	—	—
95	DVDD3	+3.3V Power Supply for Digital	I	3.4
96	RX1	Digital Audio Interface Signal Output 1 (C-MOS)	I	0
97	RX2	Digital Audio Interface Signal Output 2 (C-MOS)	I	0
98	DVSS3	Digital GND	I	0
99	DIULK (NC)	—	—	—
100	RCL (NC)	—	—	—
101	RWSA (NC)	—	—	—
102	RXDA (NC)	—	—	—
103	R384 (NC)	—	—	—
104	CVDA	Clock Input for CD-TEXT Data Communication	I	0
105	CV384	(Connecting to GND)	I	0
106	DADD4 (NC)	+3.3V Power Supply for Digital	I	3.4
107	XI	Crystal Oscillator Input (16.934MHz)	I	1.6
108	XO	Crystal Oscillator Output (16.934MHz)	O	1.8
109	DVSS4	Digital GND	I	0
110	MONI0	Monitor Output O/CD-TEX Communication Data Output	O	1.8
111	MONI1	Monitor Output 1	O	0
112	MONI2	Sub-Code Frame Sync Signal Output for CD-TEXT	O	3.4
113	MONI3	Monitor Output 3/Sub-Code Block Sync Signal Output for CD-TEXT	O	3.4
114	MONI4	(Open)	O	0
115	MONI5	(Open)	O	0
116	TRNFI	Filter Input for Internal Clock PLL	I	0
117	SYSFI	Filter Input for System Clock PLL	I	0
118	TCSEL	(Connecting to GND)	I	0
119	RFSWPG	RFIC Bit/Group Setting (H:Bit)	O	0
120	TRCRS	Track Close Signal	I	3.3
121	OFTR	Off Track Signal (H:Off Track)	I	2.5
122	DVDD5	+3.3V Power Supply for Digital	I	3.4
123	ADIP	ADIP FM Signal Input (21.6±0.98kHz, 100mVp-p or more)	I	1.5
124	DVSS5	Digital GND	I	0
125	VREFD	Reference Voltage PWM Output/Drive IC Track	O	—
126	EFMSEL	(Connecting to GND)	I	0
127	PEFM1	Loop Filter Output 1 for Data Slice	O	1.8
128	PEFM2	Loop Filter Output 2 for Data Slice	O	1.8

TERMINALS DESCRIPTION (3) <MD Servo Block-2>

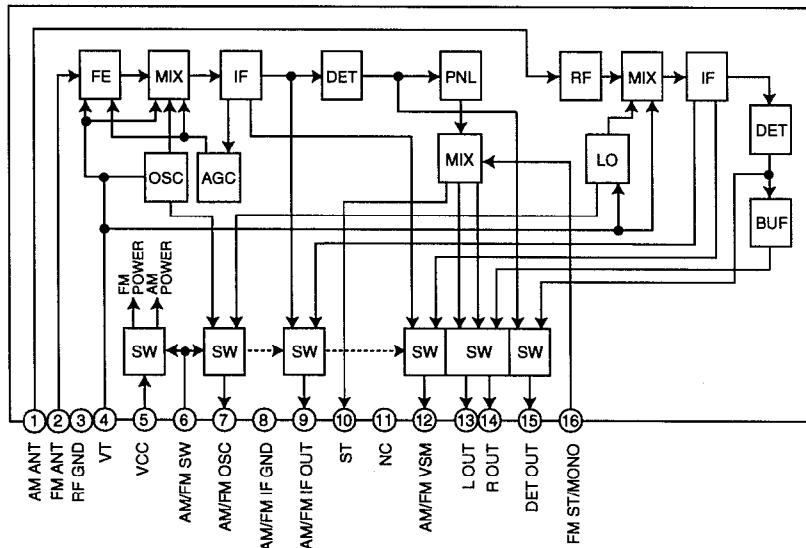
IC501 MN101C01DAF

Pin No.	Port	Name	Description	I/O	Vol. (V)
1	VREF	(NC)	-	-	-
2	AN0	(NC)	-	-	-
3	AN1	(NC)	-	-	-
4	AN2	(NC)	-	-	-
5	AN3	(NC)	-	-	-
6	AN4	(NC)	-	-	-
7	AN5	(NC)	-	-	-
8	AN6	(NC)	-	-	-
9	AN7	(NC)	-	-	-
10	VREF+	VREF+	Reference Voltage for A/D Converter	-	3.4
11	VDD	VDD	+3.3V Power Supply	-	3.4
12	OSC2	OSC2	Crystal Oscillator Output (7.37MHz)	O	1.7
13	OSC1	OSC1	Crystal Oscillator Input (7.37MHz)	I	1.7
14	VSS	VSS	GND	-	0
15	X	(NC)	-	-	-
16	XO	(NC)	-	-	-
17	MMQD0	(NC)	-	-	-
18	P00	(NC)	-	-	-
19	P01	(NC)	-	-	-
20	P02	(NC)	-	-	-
21	P03	SSDW	Serial Write Data to IC401	O	0.6
22	SB11	SSDR	Serial Read Data from IC402	I	2.0
23	SBT1	SSCK	Serial Clock to IC401	O	3.3
24	P06	(NC)	-	-	-
25	NRST	RESET	CPU Reset	I	3.0
26	P10	SELAD	Serial Address Select from IC401	I	0.7
27	P11	(NC)	-	-	-
28	P12	(NC)	-	-	-
29	P13	CAS	DRAM CAS Signal	I	3.0
30	P14	(NC)	-	-	-
31	IRQ0	MDON	System Start/Stop Control (H:Start)	I	2.6
32	IRQ1	MDISY	Sector Sync from IC401	I	0.7
33	IRQ2	SCTCY	SUBQ/ADIP Sync	I	0.2
34	IRQ3	CFCSCN	ATRAAC Frame Sync	I	0.2
35	IRQ4	(NC)	-	-	-
36	P30	SOM	Serial Data Output for Bus Communication	O	1.3
37	SB12	SIM	Serial Data Input for Bus Communication	I	1.0
38	SBT2	SCKM	Serial Clock Input for Bus Communication	I	3.3
39	P33	(NC)	-	-	-
40	P34	(NC)	-	-	-
41	P35	(NC)	-	-	-
42	P36	(NC)	-	-	-
43	P37	(NC)	-	-	-
44	P40	IN SW	Disc IN SW Input	I	0
45	P41	INNER SW	Inner SW Input	I	3.2
46	P42	MEDIA SW	Media SW Input	I	3.2
47	P43	CLUMP SW	Clump Completion SW Input	I	0
48	P44	(NC)	-	-	-
49	P45	(NC)	-	-	-
50	P46	(NC)	-	-	-
51	P47	(NC)	-	-	-
52	NWE	(NC)	-	-	-
53	NRE	(NC)	-	-	-
54	NCS	(NC)	-	-	-
55	A16	(NC)	-	-	-
56	A17	(NC)	-	-	-
57	A0	(NC)	-	-	-
58	A1	(NC)	-	-	-
59	A2	(NC)	-	-	-
60	A3	(NC)	-	-	-
61	A4	(NC)	-	-	-
62	A5	(NC)	-	-	-
63	A6	(NC)	-	-	-
64	A7	(NC)	-	-	-
65	A8	TVD	Traverse Motor Control	I/O	0.5
66	A9	RFSWHL	Reflection Rate Selector for TC101	I/O	0
67	A10	RFSTBY	Standby for IC101	I/O	3.3
68	A11	LDON	Laser ON Signal	I/O	3.4
69	A12	DEMPH	MASH Emphasis	I/O	0
70	A13	RASON	DRAM RAS Control (H:ON)	I/O	3.4
71	A14	CASON	DRAM CAS Control (H:ON)	I/O	3.3
72	A15	CLKON	Clock Control for IC401 (L:Stop)	I/O	2.9
73	D7	LODBAK	Loading Motor Brake (H:Brake)	I/O	0
74	D6	LODMUTE	Loading Motor Driver Mute (H:Mute)	I/O	2.6
75	D5	TRVMUTE	Traverse Motor Mute (H:Mute)	I/O	0
76	D4	LOD+	Loading Motor Control + (H:Lode,L:Eject)	I/O	1.6
77	D3	LOD-	Loading Motor Control - (H:Lode,L:Eject)	I/O	1.6
78	D2	BCNT	Reference Voltage Control (H:P5V ON)	I/O	3.3
79	D1	ACTMUTE	Actuate Mute (H:Mute)	I/O	0
80	D0	PRST	Reset Input from IC401	I/O	3.3

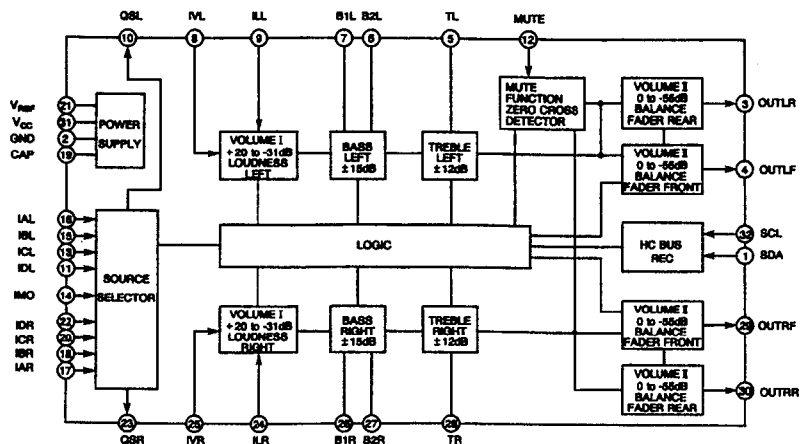
PACKAGE AND IC BLOCK DIAGRAM (1)

<Main Block>

■ PA51 YEAU03E052C [E-6731A]

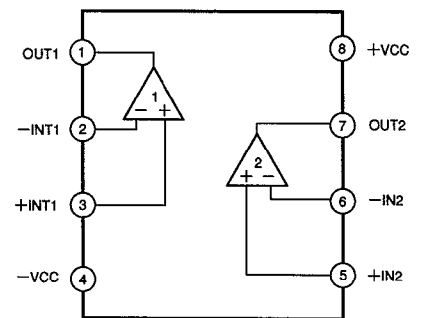


■ IC201 YEAMEA6320TT [E-6731A]

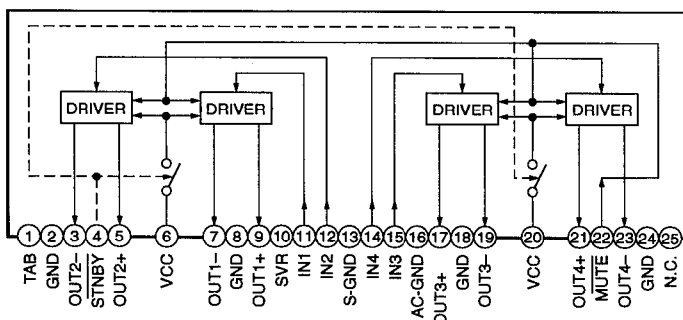


■ IC203 YEAMPC4570T1 [E-6731A]

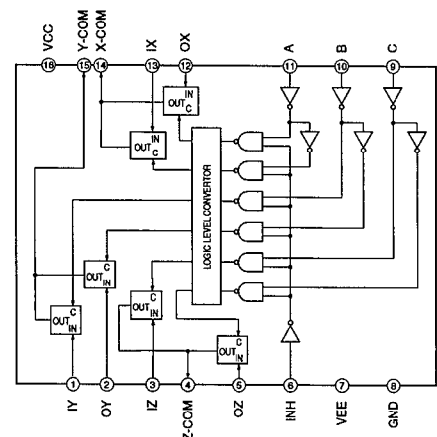
■ IC802 YEAMM5218AFE [E-6731A]



■ IC241 YEAMTDA7384 [E-6731A]

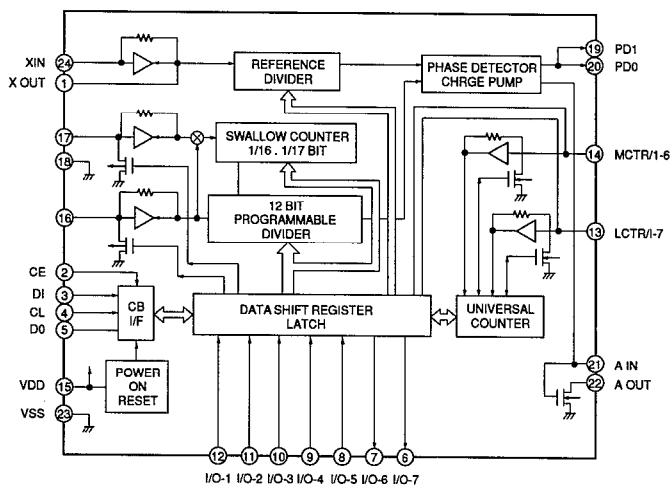


■ IC204 YEAMPD4053E2 [E-6731A]

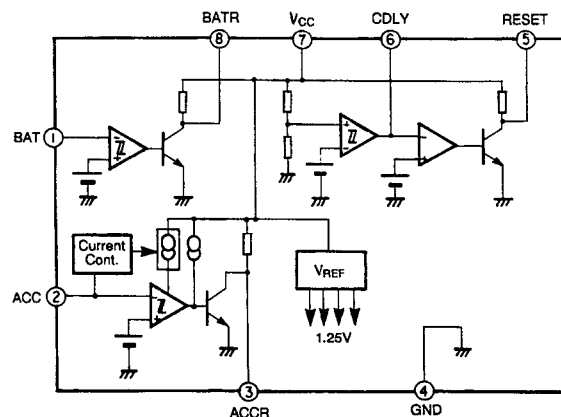


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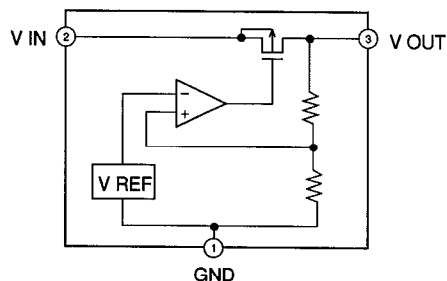
■ IC400 YEAMLC72146 [E-6731A]



■ IC601 AN8065SE1 [E-6731A]

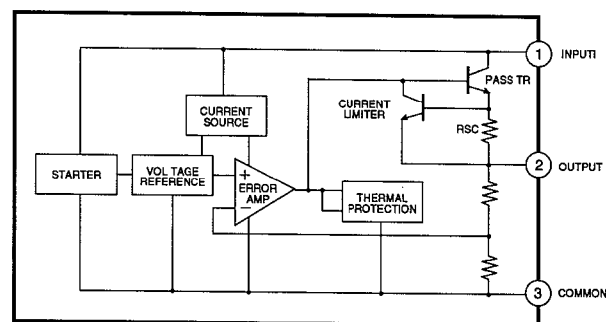


■ IC602 C0CAABC00002 [E-6731A]

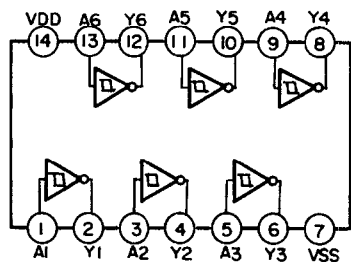


■ IC702 YEAMPC2910HF [E-6731A]

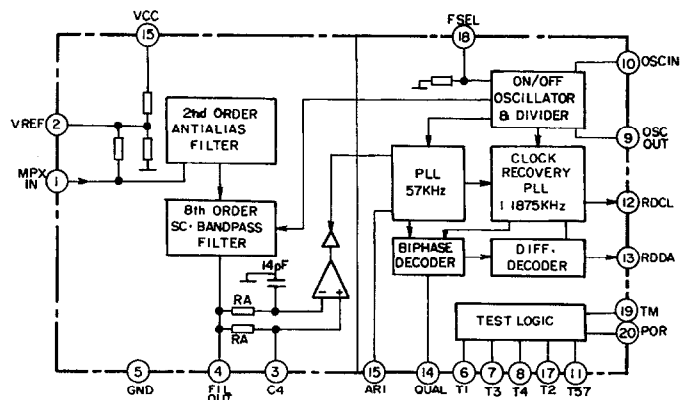
■ IC703, 704 AN7805F [E-6731A]



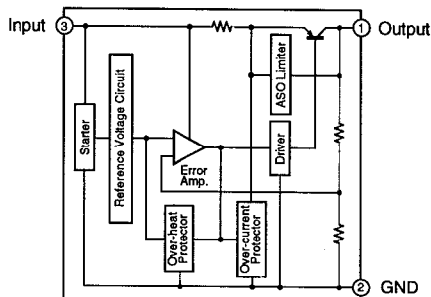
■ IC650 YEAMC14584BE [E-6731A]



■ IC900 YEAMDA7331D [E-6731A]



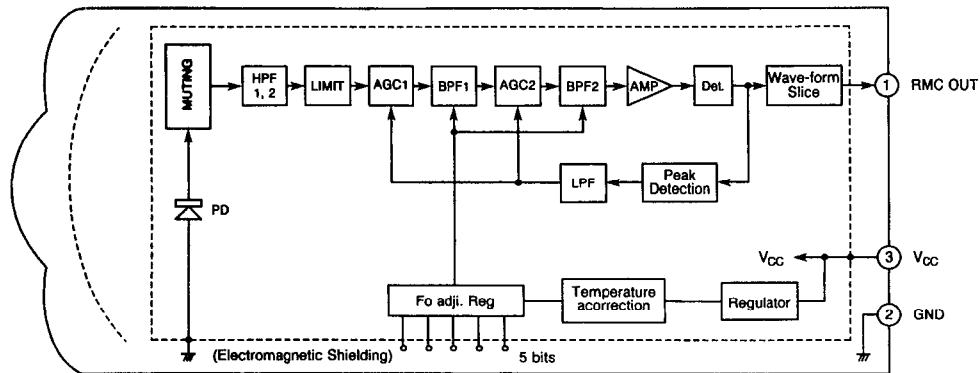
■ IC705 AN8009M-E1 [E-6731A]



PACKAGE AND IC BLOCK DIAGRAM (3)

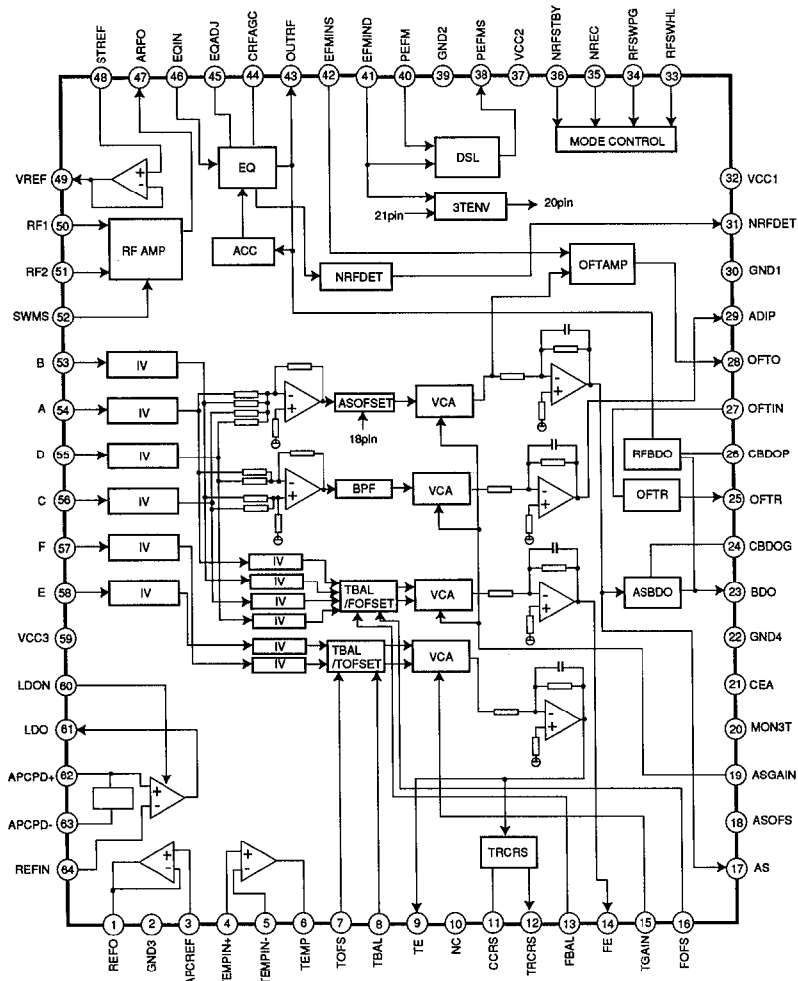
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■ IC902 YEAMSBX8035F [E-8599A]



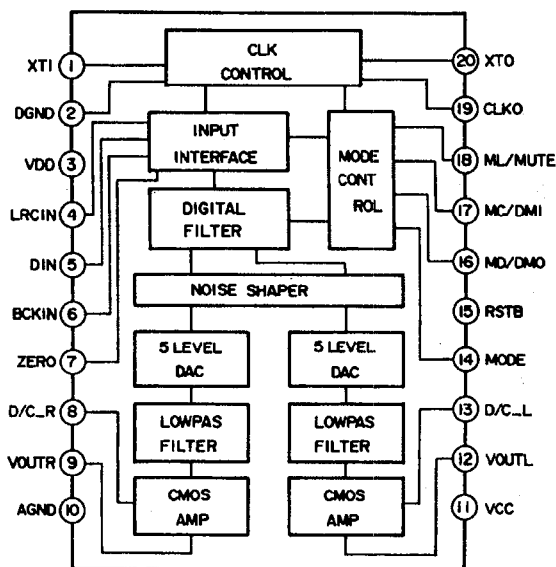
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■ IC101 AN8771NFH [D96222D/3]

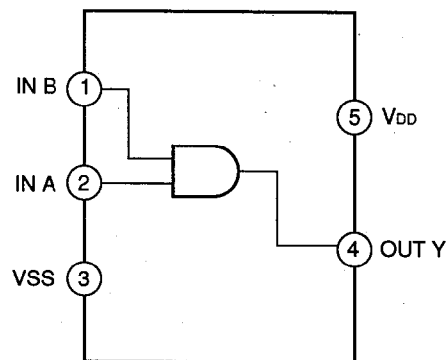


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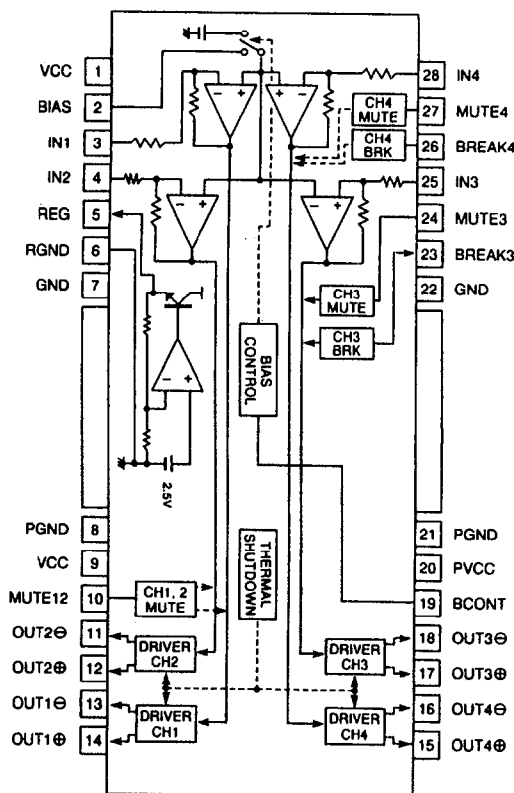
■ IC201 YEAMBBDA1717 [D96222D/3]



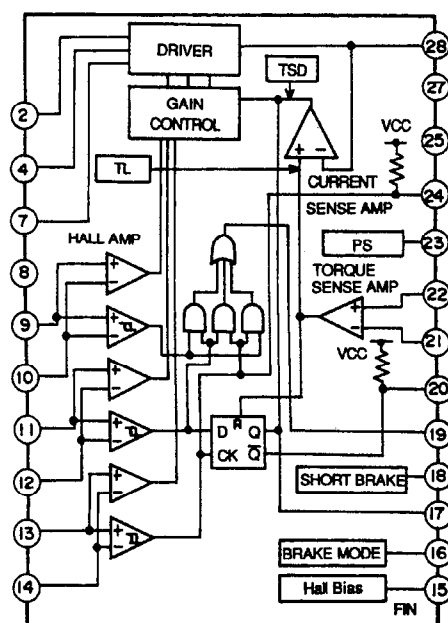
■ IC461, 462 YEAMTC7SL08F [D96222D/3]



■ IC701 YEAMBA6891FP [D96222D/3]



■ IC801 YEAMBA6858FP [M1-001-1-00]



1 Replacement Parts List

Note:

1. Be sure to make your orders of replacement parts according to this list.
2. Important safety notice: Components, identified by Δ mark have special characteristics important for safety. When replacing any of these components, use only manufacture's specified parts.
3. Location keys in the remarks column indicates the general location of the parts shown in the exploded drawing, as in a road map.
4. The marking (RTL) indicates that Retention Time is limited for this item. After the discontinuation of assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

1.1. IC's and Transistors

MAIN/MD INTERFACE BLOCK [E-6731A]

Ref. No.	Part No.	Part Name & Description	Remarks
IC201	YEAMEA6320TT	IC	
IC203	YEAMPC4570T1	IC	
IC204	YEAMPD4053E2	IC	
IC241	YEAMTDA7384	IC	
IC400	YEAMLC72146	IC	
IC600	C2CBJG000005	IC	
IC601	AN8065SE1	IC	
IC602	C0CAABC00002	IC	
IC650	YEAMC14584BE	IC	
IC702	YEAMPC2910HF	IC	
IC703	AN7805F	IC	
IC704	AN7805F	IC	
IC705	AN8009M-E1	IC	
IC802	YEAM5218AFE	IC	
IC900	YEAMDA7331D	IC	
PA51	YEAU03E052C	Electronic Tuner	
Q51	YEANA114EKT	Transistor	
Q230	YEANC323TUTX	Transistor	
Q231	YEANC323TUTX	Transistor	
Q330	YEANC323TUTX	Transistor	
Q331	YEANC323TUTX	Transistor	
Q400	YEANFP1F3PT1	Transistor	
Q401	YEAN2SK536TB	Transistor	
Q403	YEANCI144EKT	Transistor	
Q601	YEANCI144EKT	Transistor	
Q602	YEANCI144EKT	Transistor	
Q660	YEANA114EKT	Transistor	
Q661	YEANA114EKT	Transistor	
Q663	YEANA114EKT	Transistor	
Q664	YEANCI144EKT	Transistor	
Q701	YEAND1859T	Transistor	
Q702	YEANB1243QRT	Transistor	
Q703	YEANB1243QRT	Transistor	
Q704	YEANCI114YKTX	Transistor	
Q705	2SD2139TA	Transistor	
Q706	YEANA114EKT	Transistor	
Q707	YEANA114EKT	Transistor	
Q708	YEANCI114YKTX	Transistor	
Q709	2SD1994ATA	Transistor	
Q710	YEANCI144EKT	Transistor	
Q711	YEANCI144EKT	Transistor	
Q901	YEANCI623T1	Transistor	

DISPLAY BLOCK [E-8599A]

Ref. No.	Part No.	Part Name & Description	Remarks
IC901	YEAMPD32B015	IC	
IC902	YEAMSBX8035F	IC	
Q931	YEANSSTA06T	Transistor	
Q932	YEANSSTA06T	Transistor	

1.2. Diodes

MAIN/MD INTERFACE BLOCK [E-6731A]

Ref. No.	Part No.	Part Name & Description	Remarks
D201	MA151ATX	Diode	
D202	MA8051MTX	Diode	
D203	MA8051MTX	Diode	
D601	MA723TA	Diode	
D602	LN25RP	LED	
D702	MA165TA	Diode	
D703	YEADRD56JS3	Diode	
D704	MA723TA	Diode	
D707	YEADRB100AT	Diode	
D708	YEADRD91MLT2	Diode	
D709	MA153TX	Diode	
D710	YEADRD27M2T1	Diode	
D711	MA4051LMTA	Diode	
D712	MA150TA	Diode	
D715	YEADDAM3MA47	Diode	
D803	MA151ATX	Diode	
D804	YEADRD51MBT1	Diode	
D901	YEADRD51MBT1	Diode	

DISPLAY BLOCK [E-8599A]

Ref. No.	Part No.	Part Name & Description	Remarks
D901	MA8056LMHTX	Diode	
D902	MA8056LMHTX	Diode	
D903	MA8056LMHTX	Diode	
D904	MA8056LMHTX	Diode	
D905	MA8056LMHTX	Diode	
D906	YEADRD43M2T2	Diode	
D907	MA28T-ATX	Diode	
D909	LN1271RAL	LED	
D911	MA729TX	Diode	
D912	MA729TX	Diode	
D913	MA729TX	Diode	
D914	MA729TX	Diode	
D915	MA729TX	Diode	

FRONT/EJECT SW BLOCK [E-8496A]

Ref. No.	Part No.	Part Name & Description	Remarks
D641	LNJ306G5TUWQ	LED	
D643	LNJ306G5TUWQ	LED	

1.3. Capacitors

MAIN/MD INTERFACE BLOCK [E-6731A]

Ref. No.	Part No.	Part Name & Description	Remarks
C51	ECA1AM101I	Plastic Film, 0.22pF 50WV	
C52	YECUS1H103KX	Ceramic, 0.01pF 50WV	
C53	YECUS1E223KX	Ceramic, 0.022pF 25WV	
C56	YECUS1E223KX	Ceramic, 0.022pF 25WV	
C57	YECUS1H102KX	Ceramic, 0.001pF 50WV	
C59	YECUS1H103KX	Ceramic, 0.01pF 50WV	
C201	YECUS1H221JM	Ceramic, 220pF 50WV	
C203	ECEA1HKA3R3I	Electrolytic, 3.3pF 50WV	
C204	ECEA1HKA3R3I	Electrolytic, 3.3pF 50WV	
C205	YECUX1C334KX	Ceramic, 0.33pF 16WV	
C207	YECUS1C224KX	Ceramic, 0.22pF 16WV	
C208	YECUS1E333KX	Ceramic, 0.033pF 25WV	
C209	YECUS1H562KX	Ceramic, 0.0056pF 50WV	
C210	ECEA1CKA470I	Electrolytic, 47pF 16WV	
C211	YECUS1H103KX	Ceramic, 0.01pF 50WV	
C212	YECUS1H221JM	Ceramic, 220pF 50WV	
C217	YECUS1C104KX	Ceramic, 0.1pF 16WV	

Ref. No.	Part No.	Part Name & Description	Remarks
C218	YECUS1C104KX	Ceramic, 0.1pF 16WV	
C220	YECUS1H123KX	Ceramic, 0.012pF 50WV	
C221	ECEA1HKA010I	Electrolytic, 1pF 50WV	
C223	ECEA0JKA470I	Electrolytic, 47pF 6.3WV	
C230	ECEA1HKA3R3I	Electrolytic, 3.3pF 50WV	
C231	ECEA1HKA3R3I	Electrolytic, 3.3pF 50WV	
C241	ECEA1HKAR47I	Electrolytic, 0.47pF 50WV	
C242	YECUS1H122KX	Ceramic, 0.0012pF 50WV	
C244	ECEA1HKAR47I	Electrolytic, 0.47pF 50WV	
C245	YECUS1H122KX	Ceramic, 0.0012pF 50WV	
C246	YECUS1E104ZF	Ceramic, 0.1pF 25WV	
C248	ECA1CDT472Y	Electrolytic, 4700pF 16WV	
C249	YECUS1E104ZF	Ceramic, 0.1pF 25WV	
C250	ECEA1CKA470I	Electrolytic, 47pF 16WV	
C251	ECEA1HKA2R2I	Electrolytic, 2.2pF 50WV	
C252	ECEA1AKA101I	Electrolytic, 100pF 10WV	
C301	YECUS1H221JM	Ceramic, 220pF 50WV	
C303	ECA1HSA3R3I	Electrolytic, 3.3pF 50WV	
C304	ECA1HSA3R3I	Electrolytic, 3.3pF 50WV	
C305	YECUX1C334KX	Ceramic, 0.33pF 16WV	
C307	YECUS1C224KX	Ceramic, 0.22pF 16WV	
C308	YECUS1E333KX	Ceramic, 0.033pF 25WV	
C309	YECUV2A562KX	Ceramic, 0.0056pF 100WV	
C310	ECEA0JKA331I	Electrolytic, 330pF 6.3WV	
C311	ECEA1AKA221	Electrolytic, 220pF 10WV	
C312	YECUS1H221JM	Ceramic, 220pF 50WV	
C317	YECUS1C104KX	Ceramic, 0.1pF 16WV	
C318	YECUS1C104KX	Ceramic, 0.1pF 16WV	
C320	YECUS1H123KX	Ceramic, 0.012pF 50WV	
C321	ECEA1HKA010I	Electrolytic, 1pF 50WV	
C323	ECEA0JKA470I	Electrolytic, 47pF 6.3WV	
C330	ECA1HSA3R3I	Electrolytic, 3.3pF 50WV	
C331	ECEA1HKA3R3I	Electrolytic, 3.3pF 50WV	
C332	YECUS1H103KX	Ceramic, 0.01pF 50WV	
C341	ECEA1HKAR47I	Electrolytic, 0.47pF 50WV	
C342	YECUS1H122KX	Ceramic, 0.0012pF 50WV	
C344	ECEA1HKAR47I	Electrolytic, 0.47pF 50WV	
C345	YECUS1H122KX	Ceramic, 0.0012pF 50WV	
C348	YECUS1E104ZF	Ceramic, 0.1pF 25WV	
C401	YECUS1H150JM	Ceramic, 15pF 50WV	
C402	YECUS1H150JM	Ceramic, 15pF 50WV	
C403	ECEA0JKA101I	Electrolytic, 100pF 6.3WV	
C404	YECUS1H103KX	Ceramic, 0.01pF 50WV	
C408	YECUS1E223KX	Ceramic, 0.022pF 25WV	
C409	ECQV1H224JL2	Plastic Film, 0.22pF 50WV	
C410	YECUS1H103KX	Ceramic, 0.01pF 50WV	
C411	ECEA1AKA221	Electrolytic, 220pF 10WV	
C412	ECEA1AKA221	Electrolytic, 220pF 10WV	
C413	YECUS1H101JM	Ceramic, 100pF 50WV	
C414	ECEA1AKA101I	Electrolytic, 100pF 10WV	
C601	YECUS1H220JM	Ceramic, 22pF 50WV	
C602	YECUS1H220JM	Ceramic, 22pF 50WV	
C603	YECUS1C104KX	Ceramic, 0.1pF 16WV	
C604	YECUS1H103KX	Ceramic, 0.01pF 50WV	
C605	ECEA0JKA331I	Electrolytic, 330pF 6.3WV	
C606	ECEA0JKA221I	Electrolytic, 220pF 6.3WV	
C607	EECS5R5H473	Electrolytic, 0.47pF 5.5WV	
C608	YECUS1C104KX	Ceramic, 0.1pF 16WV	
C609	YECUS1C124KX	Ceramic, 0.12pF 16WV	
C610	YECUS1E104ZF	Ceramic, 0.1pF 25WV	
C611	YECUS1E104ZF	Ceramic, 0.1pF 25WV	
C612	YECUS1E104ZF	Ceramic, 0.1pF 25WV	
C613	YECUS1H221JM	Ceramic, 220pF 50WV	
C615	YECUS1H180JM	Ceramic, 18pF 50WV	
C616	YECUS1H220JM	Ceramic, 22pF 50WV	
C650	YECUS1H103KX	Ceramic, 0.01pF 50WV	
C660	ECEA1HKA010I	Electrolytic, 1pF 50WV	
C661	YECUS1H103KX	Ceramic, 0.01pF 50WV	
C662	ECEA1HKA010I	Electrolytic, 1pF 50WV	
C663	YECUS1C104KX	Ceramic, 0.1pF 16WV	
C664	YECUS1C104KX	Ceramic, 0.1pF 16WV	
C665	ECEA0JKA220I	Electrolytic, 22pF 6.3WV	
C690	YECUS1H103KX	Ceramic, 0.01pF 50WV	

Ref. No.	Part No.	Part Name & Description	Remarks
C701	ECEA1CKA101	Electrolytic, 100pF 16WV	
C702	ECEA1HKA4R7I	Electrolytic, 4.7pF 50WV	
C703	ECEA0JKA470I	Electrolytic, 47pF 6.3WV	
C704	YECUS1H103KX	Ceramic, 0.01pF 50WV	
C705	ECEA1HKAR47I	Electrolytic, 0.47pF 50WV	
C706	YECUS1C104KX	Ceramic, 0.1pF 16WV	
C707	ECA1AM471B	Electrolytic, 470pF 10WV	
C709	ECA1AM331I	Electrolytic, 330pF 10WV	
C710	ECA1CM102B	Electrolytic, 1000pF 16WV	
C711	YECUS1C224KX	Ceramic, 0.22pF 16WV	
C712	ECEA1CKA470I	Electrolytic, 47pF 16WV	
C713	ECSE1VE475	Tantalum, 4.7pF 35WV	
C714	ECEA0JKA101I	Electrolytic, 100pF 6.3WV	
C716	ECEA1CKA470I	Electrolytic, 47pF 16WV	
C718	YECUX1C334KX	Ceramic, 0.33pF 16WV	
C719	YECUX1C334KX	Ceramic, 0.33pF 16WV	
C720	YECUS1E104ZF	Ceramic, 0.1pF 25WV	
C721	YECUS1E104ZF	Ceramic, 0.1pF 25WV	
C722	ECEA1AKA221	Electrolytic, 220pF 10WV	
C725	ECEA0JKA470I	Electrolytic, 47pF 6.3WV	
C727	EEUFC1A820H	Electrolytic, 82pF 10WV	
C728	YECUS1E104ZF	Ceramic, 0.1pF 25WV	
C729	ECEA1AKA221	Electrolytic, 220pF 10WV	
C810	ECEA0JKA220I	Electrolytic, 22pF 6.3WV	
C811	YECUS1H102KX	Ceramic, 0.001pF 50WV	
C812	YECUS1C104KX	Ceramic, 0.1pF 16WV	
C813	YECUS1H103KX	Ceramic, 0.01pF 50WV	
C814	ECEA1HKA2R2I	Electrolytic, 2.2pF 50WV	
C901	YECUS1H270JM	Ceramic, 27pF 50WV	
C902	YECUS1H470JM	Ceramic, 47pF 50WV	
C903	YECUS1C104KX	Ceramic, 0.1pF 16WV	
C904	ECEA1CKA100I	Electrolytic, 10pF 16WV	
C905	YECUS1H271JM	Ceramic, 270pF 50WV	
C906	ECEA1CKA470I	Electrolytic, 47pF 16WV	
C907	YECUS1C104KX	Ceramic, 0.1pF 16WV	
C909	YECUS1H471JM	Ceramic, 470pF 50WV	
J530	YECUV2A103KX	Ceramic, 0.01pF 100WV	
J607	YECUS1H221JM	Ceramic, 220pF 50WV	
J608	YECUS1H103KX	Ceramic, 0.01pF 50WV	

DISPLAY BLOCK [E-8599A]

Ref. No.	Part No.	Part Name & Description	Remarks
C901	YECUS1C104KX	Ceramic, 0.1pF 16WV	
C902	YECUS1H102KX	Ceramic, 0.001pF 50WV	
C906	YECUS1C334KX	Ceramic, 0.33pF 16WV	
C911	YECUS1C104KX	Ceramic, 0.1pF 16WV	
C921	YECUS1H471JM	Ceramic, 470pF 50WV	
C922	YECUS1H471JM	Ceramic, 470pF 50WV	
C923	YECUS1H471JM	Ceramic, 470pF 50WV	
C924	YECUS1H471JM	Ceramic, 470pF 50WV	
C931	ECEV1CA220SR	Electrolytic, 22pF 16WV	
C932	YECUS1C104KX	Ceramic, 0.1pF 16WV	
C933	YECUM2A683JN	Plastic Film, 0.068pF 100WV	

1.4. Resistors

MAIN/MD INTERFACE BLOCK [E-6731A]

Ref. No.	Part No.	Part Name & Description	Remarks
R50	ERJ6GEYJ5R6	Chip, 5.6Ω 1/10W	
R52	ERJ8GEYJ101V	Chip, 100Ω 1/8W	
R53	ERJ6GEYJ331	Chip, 330Ω 1/10W	
R58	ERJ6GEYJ103	Chip, 10kΩ 1/10W	
R201	ERJ6GEYJ682	Chip, 6.8kΩ 1/10W	
R202	ERJ6GEYJ682	Chip, 6.8kΩ 1/10W	
R204	ERJ6GEYJ822	Chip, 8.2kΩ 1/10W	
R205	ERJ6GEYJ332	Chip, 3.3kΩ 1/10W	
R211	ERJ6GEYJ123	Chip, 12kΩ 1/10W	
R212	ERJ6GEYJ473	Chip, 47kΩ 1/10W	
R213	ERJ8GEYJ103V	Chip, 10kΩ 1/8W	
R214	ERJ6GEYJ392	Chip, 3.9kΩ 1/10W	
R215	ERJ6GEYJ272	Chip, 2.7kΩ 1/10W	
R216	ERJ6GEYJ682	Chip, 6.8kΩ 1/10W	

Ref. No.	Part No.	Part Name & Description	Remarks
R217	ERJ6GEYJ103	Chip, 10k Ω 1/10W	
R218	ERJ6GEYJ103	Chip, 10k Ω 1/10W	
R225	ERJ6GEYJ102	Chip, 1k Ω 1/10W	
R226	ERJ8GEYJ333V	Chip, 33k Ω 1/8W	
R230	ERD25TJ101	Carbon, 100 Ω 1/4W	
R231	ERJ6GEYJ561	Chip, 560 Ω 1/10W	
R235	ERD25TJ101	Carbon, 100 Ω 1/4W	
R236	ERJ6GEYJ561	Chip, 560 Ω 1/10W	
R240	ERJ6GEYJ681	Chip, 680 Ω 1/10W	
R241	ERJ6GEYJ103	Chip, 10k Ω 1/10W	
R242	ERJ6GEYJ681	Chip, 680 Ω 1/10W	
R243	ERJ6GEYJ103	Chip, 10k Ω 1/10W	
R250	ERJ6GEYJ104	Chip, 100k Ω 1/10W	
R301	ERJ6GEYJ682	Chip, 6.8k Ω 1/10W	
R302	ERJ6GEYJ682	Chip, 6.8k Ω 1/10W	
R304	ERJ6GEYJ822	Chip, 8.2k Ω 1/10W	
R305	ERJ6GEYJ332	Chip, 3.3k Ω 1/10W	
R311	ERJ6GEYJ123	Chip, 12k Ω 1/10W	
R312	ERJ8GEYJ473V	Chip, 47k Ω 1/8W	
R313	ERJ6GEYJ103	Chip, 10k Ω 1/10W	
R314	ERJ6GEYJ392	Chip, 3.9k Ω 1/10W	
R315	ERJ6GEYJ272	Chip, 2.7k Ω 1/10W	
R316	ERJ8GEYJ682V	Chip, 6.8k Ω 1/8W	
R317	ERJ6GEYJ103	Chip, 10k Ω 1/10W	
R318	ERJ6GEYJ103	Chip, 10k Ω 1/10W	
R330	ERD25TJ101	Carbon, 100 Ω 1/4W	
R331	ERJ6GEYJ561	Chip, 560 Ω 1/10W	
R335	ERD25TJ101	Carbon, 100 Ω 1/4W	
R336	ERJ6GEYJ561	Chip, 560 Ω 1/10W	
R340	ERJ6GEYJ681	Chip, 680 Ω 1/10W	
R341	ERJ6GEYJ103	Chip, 10k Ω 1/10W	
R342	ERJ6GEYJ681	Chip, 680 Ω 1/10W	
R343	ERJ6GEYJ103	Chip, 10k Ω 1/10W	
R350	ERJ6GEYJ104	Chip, 100k Ω 1/10W	
R401	ERJ6GEYJ152	Chip, 1.5k Ω 1/10W	
R402	ERJ6GEYJ222	Chip, 2.2k Ω 1/10W	
R403	ERJ6GEYJ100	Chip, 10 Ω 1/10W	
R406	ERJ6GEYJ182	Chip, 1.8k Ω 1/10W	
R407	ERJ6GEYJ561	Chip, 560 Ω 1/10W	
R408	ERJ8GEYJ473V	Chip, 47k Ω 1/8W	
R409	ERJ6GEYJ473	Chip, 47k Ω 1/10W	
R600	ERJ6GEYJ330	Chip, 33 Ω 1/10W	
R603	ERJ6GEYJ473	Chip, 47k Ω 1/10W	
R605	ERJ6GEYJ473	Chip, 47k Ω 1/10W	
R607	ERJ6GEYJ473	Chip, 47k Ω 1/10W	
R609	ERJ6GEYJ102	Chip, 1k Ω 1/10W	
R610	ERJ6GEYJ102	Chip, 1k Ω 1/10W	
R611	ERJ6GEYJ102	Chip, 1k Ω 1/10W	
R614	ERJ8GEYJ681V	Chip, 680 Ω 1/8W	
R615	ERJ6GEYJ102	Chip, 1k Ω 1/10W	
R617	ERD25TJ102	Carbon, 1k Ω 1/4W	
R618	ERJ6GEYJ102	Chip, 1k Ω 1/10W	
R619	ERJ6GEYJ102	Chip, 1k Ω 1/10W	
R620	ERJ6GEYJ102	Chip, 1k Ω 1/10W	
R621	ERJ8GEYJ102V	Chip, 1k Ω 1/8W	
R622	ERJ6GEYJ102	Chip, 1k Ω 1/10W	
R623	ERJ6GEYJ184	Chip, 180k Ω 1/10W	
R629	ERJ6GEYJ182	Chip, 1.8k Ω 1/10W	
R630	ERJ6GEYJ102	Chip, 1k Ω 1/10W	
R631	ERJ6GEYJ182	Chip, 1.8k Ω 1/10W	
R632	ERJ6GEYJ473	Chip, 47k Ω 1/10W	
R633	ERJ6GEYJ102	Chip, 1k Ω 1/10W	
R634	ERJ6GEYJ473	Chip, 47k Ω 1/10W	
R639	ERJ6GEYJ184	Chip, 180k Ω 1/10W	
R642	ERJ8GEYJ103V	Chip, 10k Ω 1/8W	
R643	ERJ6GEYJ104	Chip, 100k Ω 1/10W	
R645	ERJ6GEYJ273	Chip, 27k Ω 1/10W	
R650	ERJ6GEYJ104	Chip, 100k Ω 1/10W	
R651	ERJ6GEYJ104	Chip, 100k Ω 1/10W	
R652	ERJ6GEYJ104	Chip, 100k Ω 1/10W	
R658	ERJ6GEYJ562	Chip, 5.6k Ω 1/10W	
R659	ERJ6GEYJ223	Chip, 22k Ω 1/10W	
R660	ERJ6GEYJ102	Chip, 1k Ω 1/10W	

Ref. No.	Part No.	Part Name & Description	Remarks
R661	ERJ6GEYJ393	Chip, 39k Ω 1/10W	
R663	ERJ6GEYJ302	Chip, 3k Ω 1/10W	
R664	ERJ6GEYJ302	Chip, 3k Ω 1/10W	
R665	ERJ6GEYJ302	Chip, 3k Ω 1/10W	
R666	ERJ8GEYJ222V	Chip, 2.2k Ω 1/8W	
R667	ERJ6GEYJ222	Chip, 2.2k Ω 1/10W	
R668	ERJ6GEYJ222	Chip, 2.2k Ω 1/10W	
R669	ERJ6GEYJ103	Chip, 10k Ω 1/10W	
R672	ERJ6GEYJ102	Chip, 1k Ω 1/10W	
R673	ERJ6GEYJ102	Chip, 1k Ω 1/10W	
R674	ERJ8GEYJ154V	Chip, 150k Ω 1/8W	
R675	ERJ8GEYJ102V	Chip, 1k Ω 1/8W	
R677	ERDS2TJ102	Carbon, 1k Ω 1/4W	
R680	ERJ8GEYJ331V	Chip, 330 Ω 1/8W	
R681	ERJ8GEYJ331V	Chip, 330 Ω 1/8W	
R686	ERJ6GEYJ472	Chip, 4.7k Ω 1/10W	
R690	ERJ6GEYJ184	Chip, 180k Ω 1/10W	
R691	ERJ6GEYJ393	Chip, 39k Ω 1/10W	
R692	ERJ8GEYJ104V	Chip, 100k Ω 1/8W	
R693	ERJ6GEYJ102	Chip, 1k Ω 1/10W	
R695	ERJ6GEYJ182	Chip, 1.8k Ω 1/10W	
R701	ERDS2FJ470	Carbon, 47 Ω 1/4W	
R703	ERJ6GEYJ472	Chip, 4.7k Ω 1/10W	
R704	ERJ6GEYJ274	Chip, 270k Ω 1/10W	
R705	ERJ6GEYJ433	Chip, 43k Ω 1/10W	
R706	ERJ6GEYJ102	Chip, 1k Ω 1/10W	
R707	ERD25TJ224	Carbon, 220k Ω 1/4W	
R708	ERJ6GEYJ433	Chip, 43k Ω 1/10W	
R709	ERJ6GEYJ473	Chip, 47k Ω 1/10W	
R710	ERDS1FJ681	Carbon, 680 Ω 1/2W	
R711	ERDS1FJ681	Carbon, 680 Ω 1/2W	
R712	ERJ8GEYJ10V	Chip, 1.0 Ω 1/8W	
R714	ERJ6GEYJ561	Chip, 560 Ω 1/10W	
R715	ERJ8GEYJ473V	Chip, 47k Ω 1/8W	
R716	ERDS1FJ681	Carbon, 680 Ω 1/2W	
R719	ERJ8GEYJ10V	Chip, 1.0 Ω 1/8W	
R720	ERJ6GEYJ103	Chip, 10k Ω 1/10W	
R721	ERJ6GEYJ103	Chip, 10k Ω 1/10W	
R722	ERJ8GEYJ473V	Chip, 47k Ω 1/8W	
R723	ERJ6GEYJ222	Chip, 2.2k Ω 1/10W	
R724	ERJ8GEYJ222V	Chip, 2.2k Ω 1/8W	
R726	ERJ6GEYJ472	Chip, 4.7k Ω 1/10W	
R727	ERJ6GEYJ151	Chip, 150 Ω 1/10W	
R728	ERJ6GEYJ151	Chip, 150 Ω 1/10W	
R801	ERJ6GEYJ473	Chip, 47k Ω 1/10W	
R804	ERJ6GEYJ103	Chip, 10k Ω 1/10W	
R805	ERJ6GEYJ104	Chip, 100k Ω 1/10W	
R806	ERJ6GEYJ473	Chip, 47k Ω 1/10W	
R807	ERJ6GEYJ123	Chip, 12k Ω 1/10W	
R808	ERJ6GEYJ102	Chip, 1k Ω 1/10W	
R809	ERJ6GEYJ472	Chip, 4.7k Ω 1/10W	
R900	ERJ6GEYJ225V	Chip, 2.2M Ω 1/10W	
R902	ERJ6GEYJ103	Chip, 10k Ω 1/10W	
R903	ERJ6GEYJ103	Chip, 10k Ω 1/10W	
R904	ERJ6GEYJ102	Chip, 1k Ω 1/10W	
R905	ERJ6GEYJ334	Chip, 330k Ω 1/10W	
R906	ERJ6GEYJ222	Chip, 2.2k Ω 1/10W	
R908	ERJ8GEYJ331V	Chip, 330 Ω 1/8W	

DISPLAY BLOCK [E-8599A]

Ref. No.	Part No.	Part Name & Description	Remarks
R901	ERJ6GEYJ102	Chip, 1k Ω 1/10W	
R902	ERJ6GEYJ102	Chip, 1k Ω 1/10W	
R903	ERJ6GEYJ102	Chip, 1k Ω 1/10W	
R904	ERJ6GEYJ102	Chip, 1k Ω 1/10W	
R905	ERJ6GEYJ4R7	Chip, 4.7 Ω 1/10W	
R906	ERJ6GEYJ471	Chip, 470 Ω 1/10W	
R907	ERJ6GEYJ102	Chip, 1k Ω 1/10W	
R908	ERJ6GEYJ103	Chip, 10k Ω 1/10W	
R909	ERJ6GEYJ102	Chip, 1k Ω 1/10W	
R911	ERJ6GEYJ472	Chip, 4.7k Ω 1/10W	
R912	ERJ6GEYJ472	Chip, 4.7k Ω 1/10W	
R914	ERJ6GEYJ472	Chip, 4.7k Ω 1/10W	

Ref. No.	Part No.	Part Name & Description	Remarks
R915	ERJ6GEYJ472	Chip, 4.7k Ω 1/10W	
R917	ERJ6GEYJ104	Chip, 100k Ω 1/10W	
R918	ERJ6GEYJ104	Chip, 100k Ω 1/10W	
R919	ERJ6GEYJ563	Chip, 56k Ω 1/10W	
R920	ERJ6GEYJ224	Chip, 220k Ω 1/10W	
R921	ERJ6GEYJ682	Chip, 6.8k Ω 1/10W	
R922	ERJ6GEYJ682	Chip, 6.8k Ω 1/10W	
R923	ERJ6GEYJ682	Chip, 6.8k Ω 1/10W	
R924	ERJ6GEYJ682	Chip, 6.8k Ω 1/10W	
R931	ERJ6GEYJ332	Chip, 3.3k Ω 1/10W	
R932	ERJ6GEYJ332	Chip, 3.3k Ω 1/10W	

1.5. Connectors

MAIN/MD INTERFACE BLOCK [E-6731A]

Ref. No.	Part No.	Part Name & Description	Remarks
CN300	YEA02166	Connector, 4P RCA	
CN601	YEA0115MX	Connector, 15P	
CN602	YEA0115MX	Connector, 7P	
CN603	YEA0104MX	Connector, 4P	
CN620	YEA012763	Connector, 14P	
CN622	YEA0114TKAG	Connector, 14P	
CN680	YEA012307	Connector, 8P DIN	
CN701	YEA012748	Connector, 16P	
CP620	YEA012668	Connector, 14P	

DISPLAY BLOCK [E-8599A]

Ref. No.	Part No.	Part Name & Description	Remarks
CN901	YEA012760	Connector, 14P	

FRONT/EJECT SW BLOCK [E-8496A]

Ref. No.	Part No.	Part Name & Description	Remarks
CJ640	YEA0115MPA	Connector, 15P	
CJ642	YEA0104MPA	Connector, 4P	
CP641	YEA012761	Connector, 14P	

1.6. Electric Parts

SWITCHES

Ref. No.	Part No.	Part Name & Description	Remarks
SW602	YEAS08042	Switch	
SW901	YEAS09312	Switch	
SW902	YEAS09312	Switch	
SW903	KOH1BA000285	Switch	
SW904	KOH1BA000285	Switch	
SW905	YEAS09312	Switch	
SW906	YEAS09312	Switch	
SW907	YEAS09312	Switch	
SW908	KOH1BA000285	Switch	
SW910	KOH1BA000285	Switch	
SW911	YEAS09312	Switch	
SW912	YEAS09312	Switch	
SW913	KOH1BA000285	Switch	
SW914	KOH1BA000285	Switch	
SW915	KOH1BA000285	Switch	
SW916	YEAS09312	Switch	
SW917	YEAS09312	Switch	
SW918	KOH1BA000285	Switch	
SW919	KOH1BA000285	Switch	
SW610	YEAS09267	Switch	

CRYSTALS

Ref. No.	Part No.	Part Name & Description	Remarks
XL400	YEXL49U072TA	Crystal OSC	
XL600	H0D125500002	Crystal OSC	
XL601	YEXL2RX0327	Crystal OSC	
XL900	YEXL49U0433T	Crystal OSC	

COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L50	YELT03N330JT	Coil	
L400	YELT02C101KT	Coil	
L600	YELT02C470KT	Coil	
L601	YELT02C101KT	Coil	
L702	YETQ026F143	Coil	
L703	ELEAT330KA02	Coil	
L800	YELT02C101KT	Coil	
L900	YELT02C330KT	Coil	
L903	YELT02C330KT	Coil	
L931	YELTD75F101T	Coil	
L932	YELT216825TG	Coil	

LCD

Ref. No.	Part No.	Part Name & Description	Remarks
LCD901	L5ADDLCD00002	LCD	

LAMPS

Ref. No.	Part No.	Part Name & Description	Remarks
Z50	YEAL02007T	Neon Lamp	
CFL931	A2CA00000003	Display Tube	

THERMISTOR

Ref. No.	Part No.	Part Name & Description	Remarks
PT701	YERT7AR4R7MT	Thermistor	

1.7. Accessories

PRINTING

Ref. No.	Part No.	Part Name & Description	Remarks
FM7	YGFMD282956	Operating Instruction	

INSTALLATION PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
	YEAJ02815	Power Cord	
	YEA033144	Antenna Accessory	
△	CR2025/1F	Battery	
	YEP9BS1111	Screws	
	YEF0131302	Removable Face Plate Case	
	YEFX0214198	Mounting Collar	
	YEFX9992012	Remote Controller	

1.8. Mechanical Parts

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
F1	YEA02015	Fuse, 15A	
ANT51	YEA010090	Antenna Receptacle	
AT1	K4ZZ01000048	Terminal	
AT2	K4ZZ01000048	Terminal	
AT3	K4ZZ01000048	Terminal	
CJ620	YEA014B100A	Connector, 14P	
CN251	YEA012709	Connector, 2P RCA	
1	YEF005594B	Bottom Cover	(1-B)
2	YEF0031359D	Upper Cover	(5-B)
3	YEF008462AK	Rear Plate	(3-C)
4	YEF0131413	Cover, Escutcheon	(3-A)
5	YEF009505	Side Plate	(1-C)
6	YEF0026121	Escutcheon Ass'y, Detachable	(2-A)
7	YEF0026028	Escutcheon Ass'y, Unit	(3-A)
8	YEF0135435	Button, VOL	(1-A)
9	YEF0135147	Button, EJECT	(3-A)
10	YEF0135436	Button, SEL	(2-A)
11	YEF0135713	Button, BAND/SOURCE	(2-A)
12	YEF0135439	Button, TUNE/TRACK	(1-A)
13	YEF0135534	Button, TA/AF	(1-B)
14	YEF0135532	Button, PRESET	(1-B)
15	YEF0135442	Button, OPEN	(1-A)
16	YEF001922	Heat Sink	(4-B)

Ref. No.	Part No.	Part Name & Description	Remarks
17	YEFJ05030	Color Rivet	(3-B)
18	YEFRO4187	Lead Cap	(5-C)
19	YEFV011813	Insulator	(2-C)
20	YEFV011928	Insulator, CN901	(2-B)
21	YEFW04156	Shaft Collar (A)	(2-B)
22	YEFW04157	Shaft Collar (B)	(3-A)
23	YEFX0214422	Bracket, CN701	(3-C)
24	YEFX0214617	Bracket, Deck	(4-C)
25	YEFX0011816	Transparent Plate	(3-B)
27	YEFX0213945B	Bracket, IC241	(3-B)
28	YEFX0011904	Transparent Plate, L	(2-A)
29	YEFX0214423	Bracket, IC702	(3-B)
30	YEFX0011905	Transparent Plate, R	(2-A)
32	YEFX007380	Cord Clamper	(3-C)
33	YEFX0052396	Spring	(1-B)
34	YEFX0052253	Spring	(2-A) (2-B)
35	YEP9FX089	Front Chassis Ass'y	(4-B)
36	YEP9FX069	Hook Bracket Ass'y	(3-B)
39	YEFV03457	Magnetic Shield	(2-A)
40	YEFX0213650	Bracket, RCA	(3-C)
41	YEFV021596	Optical Shade	(2-B)
42	YEFX0011903	Transparent Plate	(2-C)
43	YEFX0214625	Magnetic Shield, Inverter	(2-A)
44	YEFX025137A	Color Screen	(2-B)
45	YEFK06835	Holder, CFL931	(2-A)
48	YEFK05570	Trim Plate	(1-B)
51	YEJS06092	Screw, 3mm * 10mm	(4-A)
52	YEJS03020	Screw, 2mm * 4mm	(3-A)
53	XTB3+6FFX	Tapping Screw, 3mm * 6mm	
54	YEJT03009	Tapping Screw, 3mm * 8mm	(2-B) (2-C)
55	YEJT03156	Tapping Screw, 2.6mm * 4mm	(3-A)
56	XSB26+4FX	Screw, 2.6mm * 4mm	
57	XTN2+8GFZ	Tapping Screw, 2mm * 8mm	(2-B) (3-B)
58	XTB3+8GFZ	Tapping Screw, 3mm * 8mm	(3-C)

2 MD Player Parts

2.1. IC's and Transistors

MD SERVO BLOCK [D96222D/3]

Ref. No.	Part No.	Part Name & Description	Remarks
IC101	AN8771NFB	IC	
IC201	YEAMBBDA1717	IC	
IC401	MN66614R4C1	IC	
IC451	YEAMHM1740L6	IC	
IC461	YEAMTC7SL08F	IC	
IC462	YEAMTC7SL08F	IC	
IC501	MN101C01DAF	IC	
IC551	YEAMMC3326D3	IC	
IC701	YEAMBA6891FP	IC	
Q101	2SB766ATX	Transistor	

MOTOR BLOCK [MD1-001-1-01]

Ref. No.	Part No.	Part Name & Description	Remarks
IC801	YEAMBA6858FP	IC	

2.2. Diodes

MD SERVO BLOCK [D96222D/3]

Ref. No.	Part No.	Part Name & Description	Remarks
D401	MA151ATX	Diode	
D701	YEADRD33M2T1	Diode	

2.3. Capacitors

MD SERVO BLOCK [D96222D/3]

Ref. No.	Part No.	Part Name & Description	Remarks
C101	YECUZ1H103KX	Ceramic, 0.01pF 50WV	
C102	YECUZ1H103KX	Ceramic, 0.01pF 50WV	
C103	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C104	YECUZ1H103KX	Ceramic, 0.01pF 50WV	
C105	YECUZ1H681JM	Ceramic, 680pF 50WV	
C106	YECUZ1H332KX	Ceramic, 3300pF 50WV	
C107	YECUZ1H102KX	Ceramic, 1000pF 50WV	
C108	YECUZ1H332KX	Ceramic, 3300pF 50WV	
C109	YECUZ1H103KX	Ceramic, 0.01pF 50WV	
C110	YECUZ1H102KX	Ceramic, 1000pF 50WV	
C111	YECUZ1H272KX	Ceramic, 2700pF 50WV	
C112	YECUZ1H102KX	Ceramic, 1000pF 50WV	
C113	YECUZ1H102KX	Ceramic, 1000pF 50WV	
C114	YECUZ1E223KX	Ceramic, 0.022pF 25WV	
C115	YECUS1C474KX	Ceramic, 0.47pF 16WV	
C116	YECUZ1H472KX	Ceramic, 4700pF 50WV	
C117	YECUZ1H472KX	Ceramic, 4700pF 50WV	
C118	YECUZ1C823KX	Ceramic, 0.082pF 16WV	
C119	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C120	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C121	YECUZ1H332KX	Ceramic, 3300pF 50WV	
C122	YECUS1ET106R	Ceramic, 10pF 25WV	
C125	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C126	ECEH0JVC470F	Electrolytic, 47pF 6.3WV	
C127	YECUS1C154KX	Ceramic, 0.15pF 16WV	
C128	YECUZ1C333KX	Ceramic, 0.033pF 16WV	
C129	YECUS1C474KX	Ceramic, 0.47pF 16WV	
C130	YECUZ1C333KX	Ceramic, 0.033pF 16WV	
C131	YECUS1C474KX	Ceramic, 0.47pF 16WV	
C132	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C133	ECEH0JVC470F	Electrolytic, 47pF 6.3WV	
C134	YECUS1A105KX	Ceramic, 1pF 10WV	
C135	YECUS1A105KX	Ceramic, 1pF 10WV	
C136	YECUS1C224KX	Ceramic, 0.22pF 16WV	
C137	YECUS1C224KX	Ceramic, 0.22pF 16WV	
C138	YECUZ1H332KX	Ceramic, 3300pF 50WV	
C140	YECUZ1E223KX	Ceramic, 0.022pF 25WV	
C144	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C145	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C146	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C151	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C201	YECUS1A105KX	Ceramic, 1pF 10WV	
C202	YECUS1A105KX	Ceramic, 1pF 10WV	
C203	ECEH1CVC220F	Electrolytic, 22pF 16WV	
C204	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C205	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C301	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C401	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C402	YECUZ1H102KX	Ceramic, 1000pF 50WV	
C403	YECUZ1H102KX	Ceramic, 1000pF 50WV	
C404	YECUS1A105KX	Ceramic, 1pF 10WV	
C405	YECUS1A105KX	Ceramic, 1pF 10WV	
C406	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C407	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C408	YECUS1C474KX	Ceramic, 0.47pF 16WV	
C409	YECUZ1C473KX	Ceramic, 0.047pF 16WV	
C410	YECUZ1H103KX	Ceramic, 0.01pF 50WV	
C411	YECUZ1H222KX	Ceramic, 2200pF 50WV	
C412	YECUZ1H222KX	Ceramic, 2200pF 50WV	
C413	YECUZ1H103KX	Ceramic, 0.01pF 50WV	
C414	YECUZ1C683KX	Ceramic, 0.068pF 16WV	
C415	YECUZ1E223KX	Ceramic, 0.022pF 25WV	
C416	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C417	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C418	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C419	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C422	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C425	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C426	YECUZ1H103KX	Ceramic, 0.01pF 50WV	
C431	ECEH0JVC470F	Electrolytic, 47pF 6.3WV	
C432	ECEH0JVC470F	Electrolytic, 47pF 6.3WV	

Ref. No.	Part No.	Part Name & Description	Remarks
C441	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C461	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C462	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C501	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C502	ECEH0JVC470F	Electrolytic, 47pF 6.3WV	
C503	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C551	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C552	YECUS1A105KX	Ceramic, 1pF 10WV	
C701	ECEH1CVC220F	Electrolytic, 22pF 16WV	
C702	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C703	YECUZ1H102KX	Ceramic, 1000pF 50WV	
C704	YECUZ1H102KX	Ceramic, 1000pF 50WV	
C705	YECUZ1H103KX	Ceramic, 0.01pF 50WV	

MOTOR BLOCK [MD1-001-1-01]

Ref. No.	Part No.	Part Name & Description	Remarks
C802	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C803	YECUZ1C103KX	Ceramic, 0.01pF 16WV	
C804	YECUZ1C104KX	Ceramic, 0.1pF 16WV	
C805	YECUZ1C104KX	Ceramic, 0.1pF 16WV	

2.4. Resistors

MD SERVO BLOCK [D96222D/3]

Ref. No.	Part No.	Part Name & Description	Remarks
R101	ERJ3GEYJ222V	Chip, 2.2k Ω 1/16W	
R102	ERJ3GEYJ222V	Chip, 2.2k Ω 1/16W	
R103	ERJ3GEYJ102V	Chip, 1k Ω 1/16W	
R104	ERJ3GEYJ393V	Chip, 39k Ω 1/16W	
R105	ERJ3GEYJ153V	Chip, 15k Ω 1/16W	
R106	ERJ3GEYJ102V	Chip, 1k Ω 1/16W	
R107	ERJ3GEYJ103V	Chip, 10k Ω 1/16W	
R108	ERJ3GEYJ102V	Chip, 1k Ω 1/16W	
R109	ERJ3GEYJ102V	Chip, 1k Ω 1/16W	
R110	ERJ3GEYJ223V	Chip, 22k Ω 1/16W	
R111	ERJ3GEYJ103V	Chip, 10k Ω 1/16W	
R112	ERJ3GEYJ103V	Chip, 10k Ω 1/16W	
R113	ERJ3GEYJ472V	Chip, 4.7k Ω 1/16W	
R114	ERJ3GEYJ472V	Chip, 4.7k Ω 1/16W	
R117	ERJ3GEYJ222V	Chip, 2.2k Ω 1/16W	
R118	ERJ14YJ4R7H	Chip, 4.7 Ω 1/16W	
R119	ERJ3GEYJ474V	Chip, 470k Ω 1/16W	
R120	ERJ3GEYJ471V	Chip, 470 Ω 1/16W	
R122	ERJ3GEYJ222V	Chip, 2.2k Ω 1/16W	
R133	ERJ3GEYJ472V	Chip, 4.7k Ω 1/16W	
R134	ERJ3GEYJ103V	Chip, 10k Ω 1/16W	
R135	ERJ3GEYJ103V	Chip, 10k Ω 1/16W	
R202	ERJ3GEYJ2R2V	Chip, 2.2 Ω 1/16W	
R401	ERJ3GEYJ103V	Chip, 10k Ω 1/16W	
R402	ERJ3GEYJ103V	Chip, 10k Ω 1/16W	
R403	ERJ3GEYJ102V	Chip, 1k Ω 1/16W	
R404	ERJ3GEYJ102V	Chip, 1k Ω 1/16W	
R407	ERJ3GEYJ391V	Chip, 390 Ω 1/16W	
R408	ERJ3GEYJ222V	Chip, 2.2k Ω 1/16W	
R409	ERJ3GEYJ391V	Chip, 390 Ω 1/16W	
R411	ERJ3GEYJ471V	Chip, 470 Ω 1/16W	
R412	ERJ3GEYJ333V	Chip, 33k Ω 1/16W	
R413	ERJ3GEYJ222V	Chip, 2.2k Ω 1/16W	
R414	ERJ3GEYJ101V	Chip, 100 Ω 1/16W	
R415	ERJ3GEYJ473V	Chip, 47k Ω 1/16W	
R416	ERJ3GEYJ222V	Chip, 2.2k Ω 1/16W	
R417	ERJ3GEYJ101V	Chip, 100 Ω 1/16W	
R418	ERJ3GEYJ122V	Chip, 1.2k Ω 1/16W	
R419	ERJ3GEYJ471V	Chip, 470 Ω 1/16W	
R420	ERJ3GEYJ182V	Chip, 1.8k Ω 1/16W	
R421	ERJ3GEYJ103V	Chip, 10k Ω 1/16W	
R422	ERJ3GEYJ101V	Chip, 100 Ω 1/16W	
R425	ERJ3GEYJ153V	Chip, 15k Ω 1/16W	
R426	ERJ3GEYJ153V	Chip, 15k Ω 1/16W	
R427	ERJ3GEYJ392V	Chip, 3.9k Ω 1/16W	
R429	ERJ3GEYJ101V	Chip, 100 Ω 1/16W	

Ref. No.	Part No.	Part Name & Description	Remarks
R432	ERJ3GEYJ223V	Chip, 22k Ω 1/16W	
R433	ERJ3GEYJ333V	Chip, 33k Ω 1/16W	
R501	ERJ3GEYJ563V	Chip, 56k Ω 1/16W	
R502	ERJ3GEYJ564V	Chip, 560k Ω 1/16W	
R511	ERJ3GEYJ332V	Chip, 3.3k Ω 1/16W	
R513	ERJ3GEYJ332V	Chip, 3.3k Ω 1/16W	
R515	ERJ3GEYJ332V	Chip, 3.3k Ω 1/16W	
R517	ERJ3GEYJ332V	Chip, 3.3k Ω 1/16W	
R533	ERJ3GEYJ103V	Chip, 10k Ω 1/16W	
R551	ERJ3GEYJ334V	Chip, 330k Ω 1/16W	
R701	ERJ3GEYJ273V	Chip, 27k Ω 1/16W	
R702	ERJ3GEYJ223V	Chip, 22k Ω 1/16W	
R703	ERJ3GEYJ102V	Chip, 1k Ω 1/16W	
R704	ERJ3GEYJ102V	Chip, 1k Ω 1/16W	
R705	ERJ3GEYJ153V	Chip, 15k Ω 1/16W	
R706	ERJ3GEYJ102V	Chip, 1k Ω 1/16W	
R708	ERJ3GEYJ223V	Chip, 22k Ω 1/16W	
R709	ERJ3GEYJ153V	Chip, 15k Ω 1/16W	
R711	ERJ3GEYJ103V	Chip, 10k Ω 1/16W	
R712	ERJ3GEYJ103V	Chip, 10k Ω 1/16W	
R713	ERJ3GEYJ103V	Chip, 10k Ω 1/16W	
R714	ERJ3GEYJ391V	Chip, 390 Ω 1/16W	
R720	ERJ3GEYJ683V	Chip, 68k Ω 1/16W	
R730	ERJ3GEYJ101V	Chip, 100 Ω 1/16W	

MOTOR BLOCK [MD1-001-1-01]

Ref. No.	Part No.	Part Name & Description	Remarks
R801	ERJ3GEYJ102V	Chip, 1k Ω 1/16W	
R802	ERJ3GEYJ103V	Chip, 10k Ω 1/16W	
R803	ERJ3GEYJ1R5V	Chip, 1.5 Ω 1/16W	
R804	ERJ3GEYJ101V	Chip, 100 Ω 1/16W	
R805	ERJ3GEYJ101V	Chip, 100 Ω 1/16W	

2.5. Connectors

MD SERVO BLOCK [D96222D/3]

Ref. No.	Part No.	Part Name & Description	Remarks
CN1	YEA0114TKCR	Connector, 14P	
CN101	YEA05243521	Connector, 21P	
CN901	YEA05274614	Connector, 14P	
CN902	YEA05326104	Connector, 4P	

MOTOR BLOCK [MD1-001-1-01]

Ref. No.	Part No.	Part Name & Description	Remarks
CN801	YEA05243612	Connector, 12P	
CN802	YEA05274611	connector, 11P	

2.6. Electric Parts

SWITCHES

Ref. No.	Part No.	Part Name & Description	Remarks
SW1	YEAS09314	Switch	
SW2	YEAS09314	Switch	
SW3	YEAS09314	Switch	
SW4	YEAS09308	Switch	

CRYSTALS

Ref. No.	Part No.	Part Name & Description	Remarks
XL401	YEXLSTCV169T	Crystal	
XL501	YEXLSTCC737T	Crystal	

VARIABLE RESISTOR

Ref. No.	Part No.	Part Name & Description	Remarks
VR11	YEVNPOZ3A104	Variable Resistor	

COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L552	EXCCET103U	Coil	
L553	EXCCET103U	Coil	

2.7. Mechanical Parts

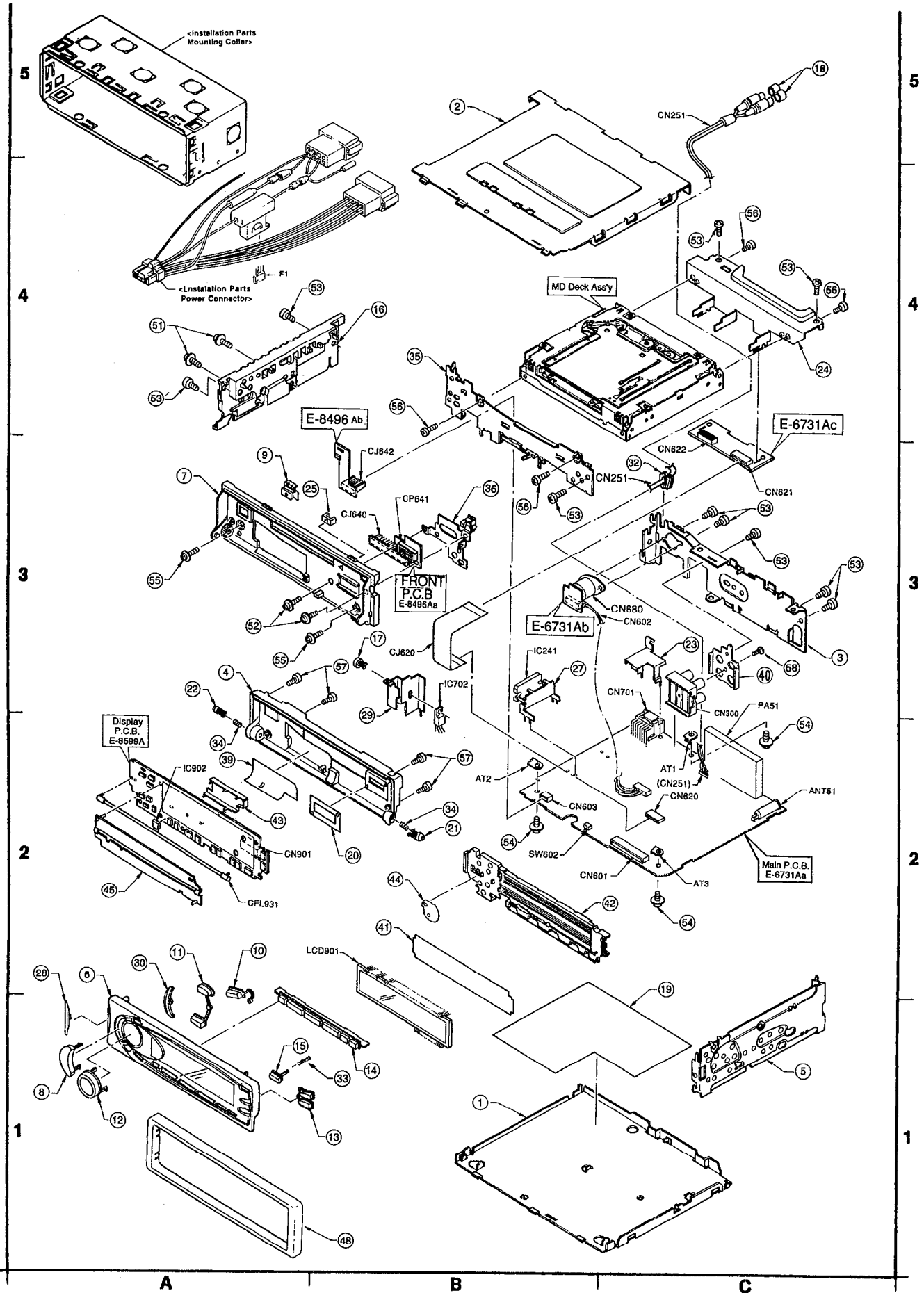
MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
TP1	YEATSD00405	Terminal	
1	YESFA03049	Upper Chassis	(4-B)
2	YESFS04012	Damper	(3-A) (4-B)
3	YESFX005107	Float Spring A	(3-B) (4-C)
4	YESFX005108	Float Spring B	(4-A) (4-B)
5	YESFX239011	Cartridge Holder Ass'y	(3-A)
6	YESFX046097	Slide Cam Plate L	(3-A)
7	YESFX046098	Slide Cam Plate R	(3-C)
8	YESFX005109	Slide Cam Spring	(3-A) (3-C)
9	YESFA01058	Suspension Chassis Ass'y	(2-C)
10	YESFX046099	Suspension Lock B	(3-B)
11	YESFX046110	Actuator B	(3-B)
12	YESFX005110	Lock Spring B	(3-B)
13	YESFX046111	SW Actuator	(3-A)
14	YESFX005111	SW Actuator Spring	(3-A)
15	YESFX021107	Motor Bracket A	(2-A)
16	YESAK01020	Motor Ass'y	(2-B)
17	YESFX003069	Motor Gear B	(2-A)
18	YESFX999038	Feed Screw Ass'y	(2-A)
19	YESFX021108	Motor Bracket C	(3-B)
20	YESFX005112	Leaf Spring	(3-B)
21	BQL2A1CRH	Spindle Motor	(2-B)
22	YESFX046100	Spindle Motor Holder	(2-B)
23	YESFW01025	Spindle Motor Mounting Bracket	(3-B)
25	YESFX046101	Lock Cam F	(2-B)
26	KLR1001J	Optical Pickup Ass'y	(2-C)
27	YESFW01026	Guide Shaft	(2-B)
28	YESFW01027	Sub Guide Shaft	(2-B)
29	YESFX005113	Shaft Holder R	(2-B) (3-C)
30	YESFX005114	Shaft Holder L	(2-B) (3-C)
31	YESFX046102	Feed Screw Housing Ass'y	(2-B)
32	YESFX005115	Guide Shaft Spring	(2-C)
33	YESFA01057	Main Chassis Ass'y	(1-B)
34	YESFX046103	Rink Plate L	(1-A)
35	YESFX046104	Rink Plate R	(2-B)
36	YESFX046105	Suspension Guide L Ass'y	(1-A)
37	YESFX046106	Suspension Guide L	(1-A)
38	YESFX046112	Suspension Guide R Ass'y	(1-C)
39	YESFX046107	Suspension Guide R	(1-B)
40	YESFX046108	Lock Plate F Ass'y	(1-C)
41	YESFX046109	Rack Plate Ass'y	(1-A)
42	YESFX003070	Gear E	(2-B)
43	YESFX018005	Gear Mounting Bracket Ass'y	(1-A)
44	YESFX003071	Gear D	(2-A)
45	YESFX003072	Gear C	(2-A)
46	YESAK01021	Loading Motor Ass'y	(1-A)
47	YESAJ02006	Motor Extension Cord	(2-A)
48	YESFX003073	Gear B	(2-A)
49	YESFX046113	SW Actuator E	(1-A)
51	YESFR01018	Clamper C	(1-A)
52	YESAP176	Motor FPC	(2-B)
100	YESJS01118	Screw, 2.6mm*3mm	(4-A) (4-B)
101	YESJS01119	Screw, 2mm*3.5mm	(3-A) (4-B)
102	YESJE01014	Retaining Ring, 2.1mm*5mm*0.4mm	
103	YESJS01120	Screw, 2.6mm*3.5mm	(3-B)
104	YESJS01121	Screw, 1.2mm*3mm	(2-A)
105	YESJT03054	Screw, 1.2mm*2mm	(2-B)
106	YESJS01122	Screw, 1.4mm*2.5mm	(2-A)
107	YESJS01123	Screw, 1.2mm*3mm	(2-B)
108	YESJS01124	Screw, 2mm*3mm	(2-B) (3-B)
109	YESJS01125	Screw, 1.4mm*1.5mm	(3-B)

Ref. No.	Part No.	Part Name & Description	Remarks
110	YESJS01126	Screw, 1.7mm*3mm	(2-B)
111	YESJS01127	Screw, 1.7mm*5.5mm	(2-B)
113	YESJS01128	Screw, 1.7mm*2.5mm	(2-B)
114	YESJT03055	Screw, 2mm*3mm	
115	YESJS01129	Screw, 2mm*2mm	(2-B) (3-C)
116	YESJS01130	Screw, 1.4mm*3mm	(2-B)
117	YESJS01131	Screw, 1.2mm*1.5mm	(2-C)
118	YESJE01027	E-Ring, 2mm	(1-B) (2-B)
120	YESJW01035	Washer, 1.65mm	(2-B)
123	YESJS01132	Screw, 2mm*2.2mm	(2-A)
124	YESJT03056	Camera Screw, 2.6mm*3mm	(1-C) (1-B)

EXPLODED VIEW (Unit)

■ Numbers in ○ are indicated REF.NO. in the REPLACEMENT PARTS LIST



EXPLODED VIEW (MD Deck)

Numbers in ○ are indicated REF.NO. in the REPLACEMENT PARTS LIST

